

2009
CONSTRUCTION STANDARDS
AND
DETAILS



CITY OF CONCORD
NEW HAMPSHIRE

COMMUNITY DEVELOPMENT DEPARTMENT
ENGINEERING SERVICES DIVISION
CITY OF CONCORD, NEW HAMPSHIRE

CONSTRUCTION STANDARDS

THESE ARE TYPICAL ENGINEERING DRAWINGS
AND ARE NOT INTENDED FOR A SPECIFIC
APPLICATION. THE CITY MAKES NO
REPRESENTATION OR GUARANTEE OF THEIR
SUITABILITY FOR USE. USERS OTHER THAN
THE CITY, DO SO AT THEIR OWN RISK.

City of Concord Construction Standards and Details

- C-1 Vertical Granite Curb
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- C-3 Slope to Vertical Granite Curb Transition
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SD-8	Oil / Sediment Control Barrier
SD-9	Standard Headwall
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SM-1	Sanitary Sewer & Storm Drain Pipe Installation
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SM-4	Adjusting Frames to Grade
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W-2	Fire Hydrant
W-3	Hydrant Painting and Marker Flags
W-4	Single Family Meter Installation
W-5	Residential Meter Installation with Irrigation
W-6	Meter Installation with Irrigation and Fire Suppression
W-7	New Condominium Dual Residential Meter Installation
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W-9	Installation of Water Meters
W-10	Water Service through Foundation
W-11	Air Release Valve (for testing purposes only)



RADIUS	MAX LENGTH
≤30'	CURVED CURB
31' – 35'	5'
36' – 42'	6'
43' – 49'	7'
50' – 56'	8'
57' – 60'	9'
OVER 60'	10'

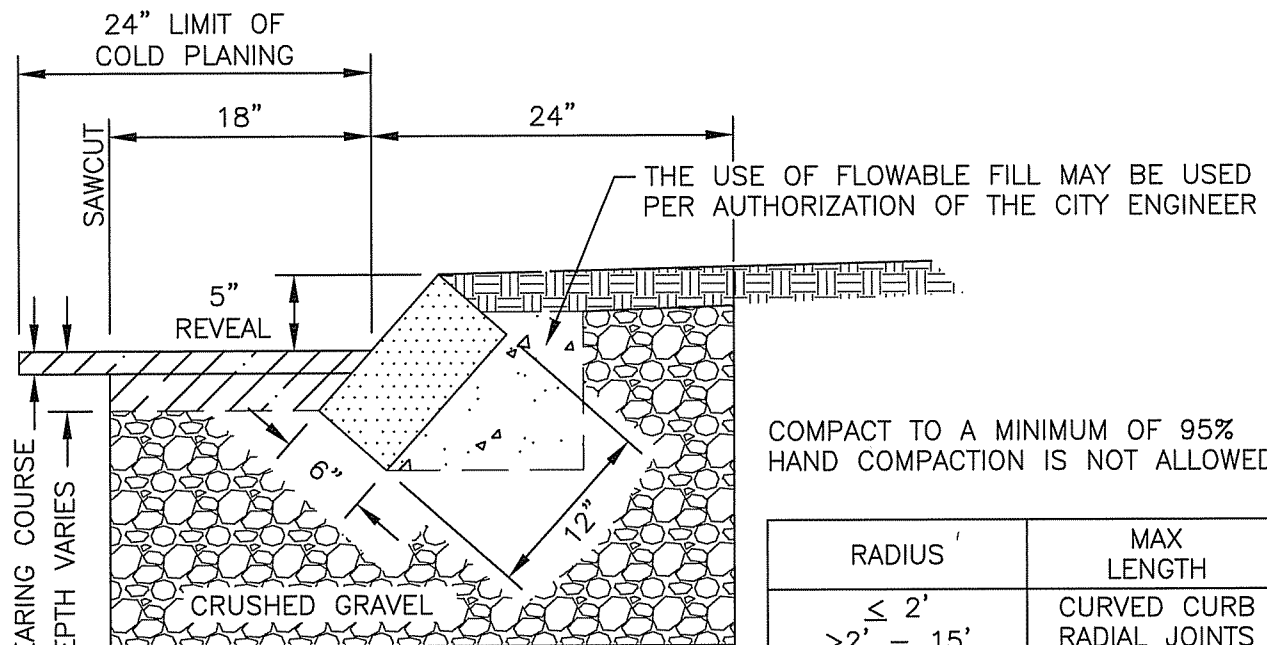
MIN LENGTH OF CURB STONES 3'
MAX LENGTH OF CURB STONES 10'
MAX LENGTH OF STRAIGHT CURB STONES
LAID ON CURVES - SEE CHART

ADJOINING STONES SHALL HAVE THE
SAME OR APPROXIMATE LENGTH.

FINISH SURFACE AND TOLERANCES FOR VERTICAL GRANITE CURB

AREA	FINISH SURFACE	TOLERANCE
<u>TOP</u>	5" WIDE OR AS OTHERWISE SHOWN, SAWN TRUE PLANE.	+ $\frac{1}{8}$ " TO + $\frac{1}{8}$ "
	FRONT AND BACK ARRIS LINES PITCHED STRAIGHT AND PARALLEL.	+ $\frac{1}{8}$ " TO + $\frac{1}{8}$ "
<u>FRONT FACE</u>	RIGHT ANGLE TO TOP, APPROXIMATELY TRUE PLANE. NO DRILL HOLES SHOWING IN TOP 10"	+1" TO - $\frac{1}{2}$ "
<u>BACK FACE</u> EXPOSED	PLANE PARALLEL WITH FRONT FACE. STRAIGHT SPLIT TO $1\frac{1}{2}$ " BELOW EXPOSED SURFACE. NO LARGER THAN $\frac{1}{4}$ " SEGMENT OF DRILL HOLES SHOWING IN ARRIS LINES.	+1" TO -1"
CONCEALED	BELOW $1\frac{1}{2}$ " FROM EXPOSED SURFACE.	+ $1\frac{1}{2}$ " TO - $1\frac{1}{2}$ "
BOTTOM	APPROXIMATELY PARALLEL TO TOP. MINIMUM WIDTH: 3"	SEE PLANS
<u>ENDS</u> EXPOSED PORTION	SQUARE WITH PLANES OF TOP AND FACE	
<u>JOINTS</u> EXPOSED	OPTIMUM WIDTH: 1"	
CONCEALED	TO BREAK BACK NO MORE THAN 4"	+ $\frac{3}{4}$ " TO - $\frac{3}{4}$ "

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET	
—	—	—	VERTICAL GRANITE CURB	DRAWING C—1	
—	—	—		NO.	
—	—	—		DATE: 12/08	
APPROVED BY:				PAGE: 1	



MIN LENGTH OF STRAIGHT CURB STONES 18"
 MAX LENGTH OF STRAIGHT CURB STONES 8'
 MAX LENGTH OF STRAIGHT CURB STONES LAID ON CURVES - SEE CHART

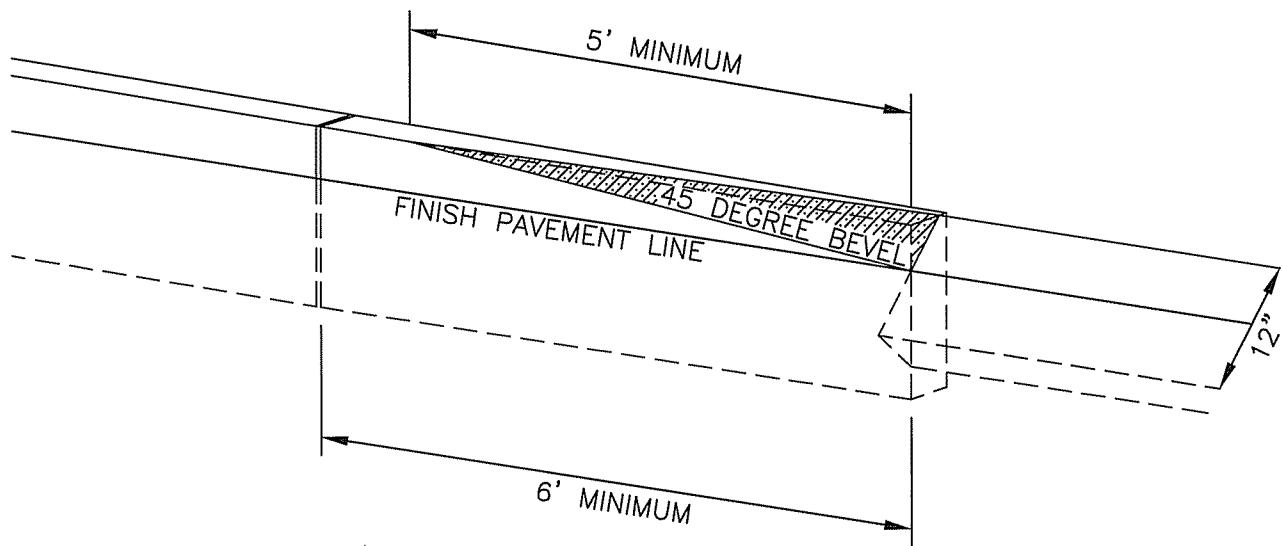
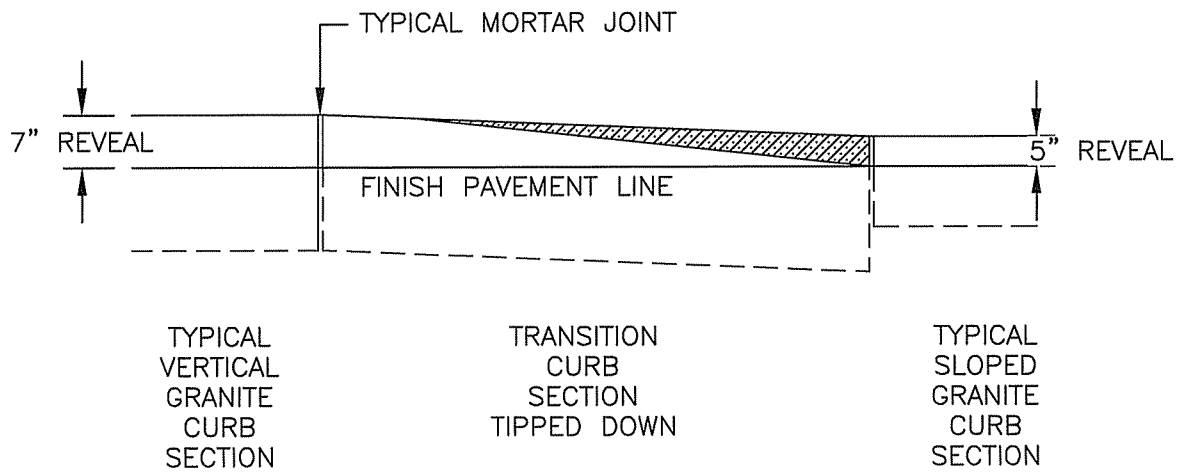
ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATE LENGTH.

RADIUS '	MAX LENGTH
$\leq 2'$	CURVED CURB RADIAL JOINTS
$>2' - 15'$	18"
$16' - 28'$	2'
$29' - 41'$	3'
$42' - 55'$	4'
$56' - 68'$	5'
$69' - 82'$	6'
$83' - 96'$	7'
$97' - 110'$	8'
OVER 110'	

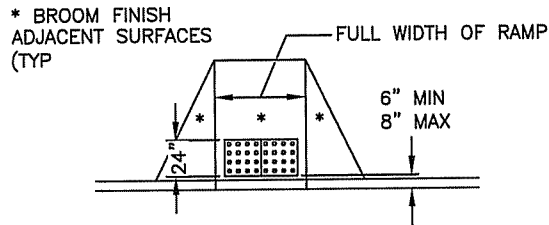
FINISH SURFACE AND TOLERANCES FOR SLOPED GRANITE CURB

AREA	FINISH SURFACE	TOLERANCE
<u>ARRIS LINES</u>	STRAIGHT AND TRUE ON TOP, FRONT AND ENDS. DRILL HOLES NOT DEEPER THAN $\frac{1}{4}"$ ALLOWED IN ARRIS LINES.	$+\frac{1}{4}"$ TO $-\frac{1}{4}"$
<u>FACES</u>		
EXPOSED PART	PLANES; NO DRILL HOLES IN FACES LONGER THAN 8" OR DEEPER THAN $\frac{1}{4}"$.	$+1"$ TO $-1"$
CONCEALED PART	DRILL HOLES NOT OBJECTIONABLE.	
<u>ENDS</u>	SQUARE WITH FACE EXCEPT AS INDICATED.	
<u>JOINTS</u>	ON TANGENT, MAXIMUM WIDTH: 1".	$+\frac{1}{2}"$ TO $-\frac{1}{2}"$
	ON CURVES OVER 15' RADIUS, WIDEN TOP OR BOTTOM FROM 1" AS NECESSARY.	$+\frac{1}{2}"$ TO $-\frac{1}{2}"$
	ON CURVES WITH 15' RADIUS AND UNDER, USE RADIAL JOINTS OR CURVED CURB AS INDICATED. OPTIMUM WIDTH: 1"	$+\frac{1}{2}"$ TO $-\frac{1}{2}"$

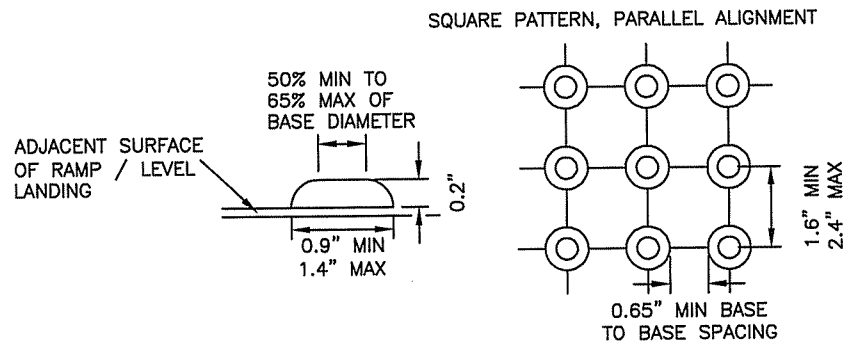
NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET
-	-	-	SLOPED GRANITE CURB	DRAWING NO. C-2
-	-	-		DATE: 12/08
-	-	-		PAGE: 1
APPROVED BY:				



NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET
-	-	-	SLOPE TO VERTICAL GRANITE CURB TRANSITION	DRAWING NO. C-3
-	-	-		DATE: 12/08
-	-	-		PAGE: 1
APPROVED BY:				



DETECTABLE WARNING PLACEMENT



DETECTABLE WARNING DETAILS

NOTES:

1. DETECTABLE WARNING SURFACES SHALL BE CAST IRON WITHIN THE CITY R.O.W.
2. CONCRETE ADJACENT TO ALL DETECTABLE WARNINGS SHALL HAVE A BROOM FINISH.
3. THE COLOR OF THE DETECTABLE WARNING SHALL PROVIDE A VISUAL CONTRAST TO THE SURROUNDING SURFACE AND SHALL BE AS SPECIFIED ON THE PLANS.
4. WHERE A RAMP OR LEVEL LANDING MEETS A CURB RADIUS, ALIGN THE EDGE OF THE DETECTABLE WARNING AREA PARALLEL TO THE CURB TO THE MAXIMUM EXTENT FEASIBLE.

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET
-	-	-	DETECTABLE WARNING PANEL DETAILS	DRAWING NO. CR-1
-	-	-		DATE: 12/08
-	-	-		PAGE: 1
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GENERAL NOTES:

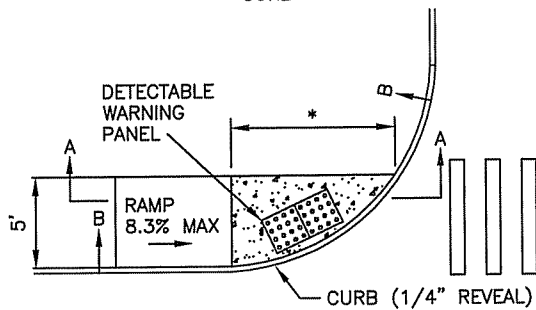
1. THE DIMENSIONS AND GRADES SHOWN ON THIS STANDARD WILL BE ADHERED TO IN THE DESIGN AND THE CONSTRUCTION OF SIDEWALK RAMPS. WHERE SIDEWALKS RUN ADJACENT TO ROADWAYS ON STEEP (5% OR GREATER) GRADES, RAMP GRADES WILL BE AS FLAT AS POSSIBLE. (ON LOW SIDE OF DRIVES AND INTERSECTING SIDE STREETS, RAMPS SHALL SLOPE TOWARDS DRIVE OR SIDE STREET AT 2%)
2. NOMINAL RAMP DIMENSIONS AND GRADES:
RAMP WIDTH - 5' MINIMUM
RAMP SLOPE - 8.3% MAXIMUM
FLARE SLOPE - 10% MAXIMUM
RAMP CROSS SLOPE - 2% MAXIMUM
3. CURB RAMPS SHALL BE CONSTRUCTED OF 6" PORTLAND CEMENT CONCRETE (CLASS AA, 4000 PSI) WITH 6"x6" W2.9XW2.9 WOVEN WIRE FABRIC REINFORCING PLACED 2½" FROM THE TOP OF THE SLAB WITH 6" CRUSHED GRAVEL SUBBASE
4. ALL SIDEWALKS AND LANDINGS SHALL HAVE A CROSS SLOPE OF 2% DRAINING TOWARD THE STREET, DRIVE, OR PARKING AREA
5. A LEVEL LANDING (NO GREATER THAN 2% SLOPE IN ANY DIRECTION) SHALL BE PROVIDED AT THE TOP OF SIDEWALK RAMPS TO ALLOW FOR STOPPING AND MANEUVERING OF WHEELCHAIRS
6. LEVEL LANDINGS (NO GREATER THAN 2% SLOPE IN ANY DIRECTION) AT THE BOTTOM OF PERPENDICULAR RAMPS SHALL BE WHOLLY CONTAINED WITHIN MARKED CROSSWALKS
7. DUMMY JOINTS SHALL BE PROVIDED AT TRANSITIONS (GRADE CHANGES) AT TOPS AND BOTTOMS OF RAMPS AND FLARES
8. VERTICAL DROP-OFF EDGES TO RAMPS WILL NOT BE BUILT UNLESS THE RAMP ABUTS AN AREA WHICH WILL NOT BE USED BY PEDESTRIANS
9. A ¼" CURB REVEAL WILL BE PROVIDED WHERE THE RAMP ADJOINS THE ROADWAY
10. AT MARKED CROSSWALKS, THE FULL WIDTH OF THE RAMP OR LANDING SHALL BE CONTAINED WITHIN THE PAVEMENT MARKINGS
11. RAMP FLARES SHOULD BE LOCATED OUTSIDE THE DIRECT LINE OF TRAVEL MOST LIKELY TO BE FOLLOWED BY THE VISUALLY IMPAIRED
12. SIGNS, POLES, PLANTERS, MAILBOXES, ETC., SHALL NOT BE LOCATED WHERE THEY WILL INTERFERE WITH THE USE OF SIDEWALK RAMPS
13. SIDEWALK RAMPS SHALL NOT BE LOCATED WHERE USERS MUST CROSS DROP INLET GRATES, MANHOLE COVERS, OR OTHER ACCESS LIDS. IF THIS CANNOT BE AVOIDED THEN GRATE DESIGN AND PLACEMENT SHALL CONFORM TO ADA REQUIREMENTS
14. CURB DRAINAGE SHOULD BE CONSTRUCTED SO AS TO PRECLUDE THE FLOW OF WATER PAST THE SIDEWALK RAMP
15. WHEREVER FEASIBLE, TWO SIDEWALK RAMPS ARE RECOMMENDED IN PREFERENCE TO A SINGLE RAMP
16. SIDEWALKS THAT ARE LESS THAN 5' WIDE REQUIRE 5' WIDE BY 5' LONG PASSING AREAS (NO GREATER THAN 2% CROSS SLOPE) AT INTERVALS NOT TO EXCEED 200'
17. E.O.P. = EDGE OF PAVEMENT
18. THE PUBLIC SIDEWALK CURB RAMP STANDARDS DEPICTED HERE MAY NOT BE APPROPRIATE FOR ALL LOCATIONS. FIELD CONDITIONS AT INDIVIDUAL LOCATIONS MAY REQUIRE SPECIFIC DESIGNS. DESIGNS MUST BE CONSISTENT WITH THE PROVISIONS OF THIS SHEET TO THE MAXIMUM EXTENT FEASIBLE ON ALTERATION PROJECTS AND WHEN STRUCTURALLY PRACTICABLE ON NEW CONSTRUCTION PROJECTS AS REQUIRED BY THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES

DETAILS WERE ORIGINALLY CREATED BY THE STATE OF VERMONT, AGENCY OF TRANSPORTATION

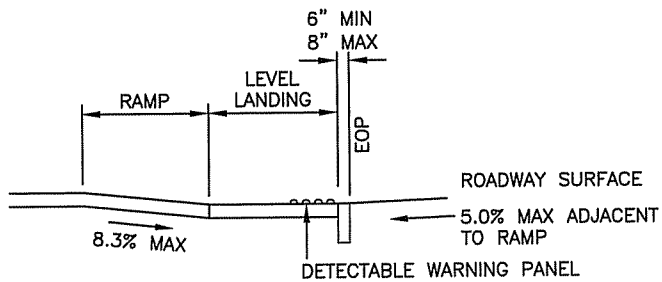
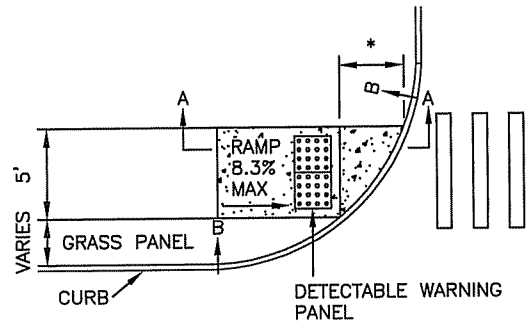
NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET	
—	—	—	SIDEWALK RAMP GENERAL NOTES	DRAWING NO. CR-2	
—	—	—		DATE: 12/08 PAGE: 1	
—	—	—			
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SINGLE WALK STRAIGHT APPROACH TO PARALLEL RAMP

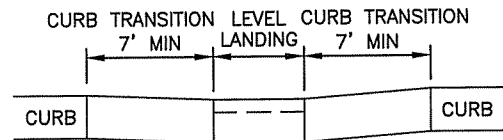
EXAMPLE 1: SIDEWALK ADJACENT TO CURB



EXAMPLE 2: SIDEWALK AND CURB SEPARATED BY GRASS PANEL



SECTION A-A

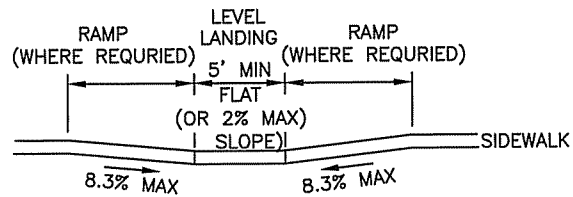
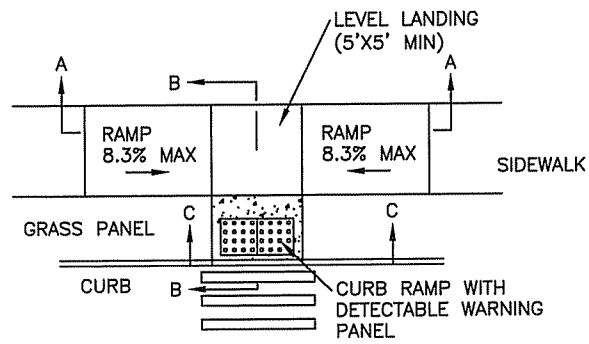


SECTION B-B

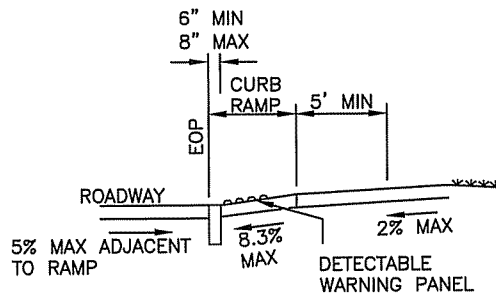
* IF LESS THEN 5', DETECTABLE WARNING PANEL MAY BE PLACED ON RAMP, PERPENDICULAR TO THE DIRECTION OF TRAVEL

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET	
—	—	—	SIDEWALK RAMP TYPE 1	DRAWING NO. CR—3	
—	—	—		DATE: 12/08	
—	—	—		PAGE: 1	
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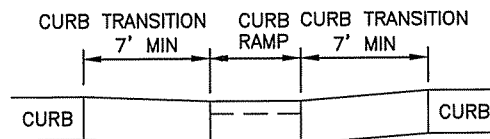
SINGLE PERPENDICULAR RAMP FROM LEVEL LANDING TANGENT SECTION



SECTION A-A



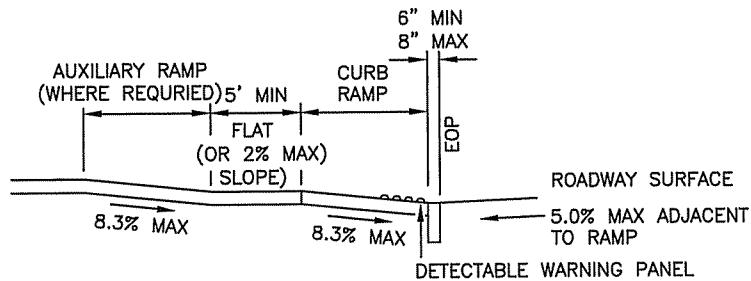
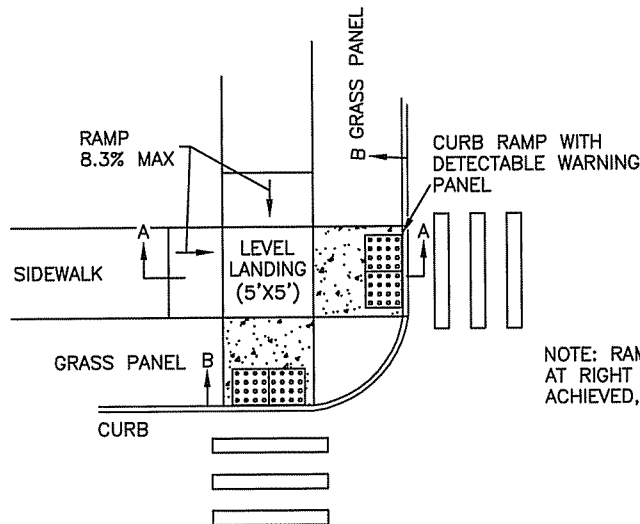
SECTION B-B



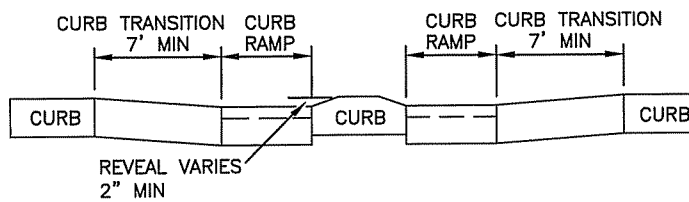
SECTION C-C

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET
-	-	-	SIDEWALK RAMP TYPE 2	DRAWING NO. CR-4
-	-	-		DATE: 12/08
-	-	-		PAGE: 1
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TWO PERPENDICULAR RAMPS FROM LEVEL LANDING



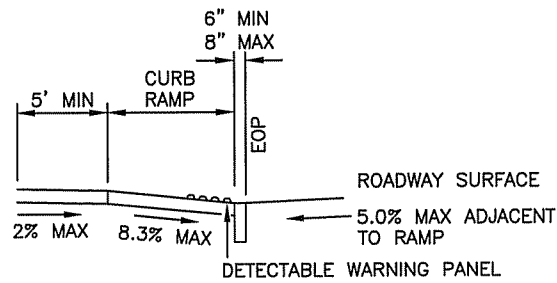
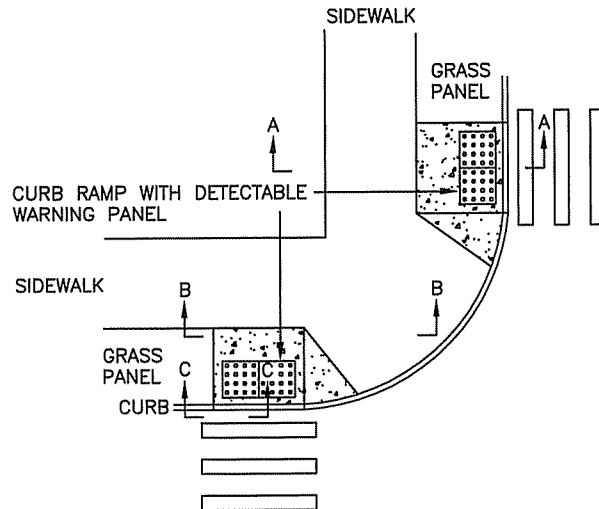
SECTION A-A



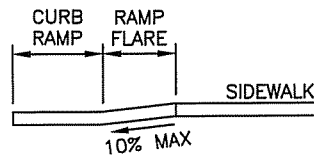
SECTION B-B

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET	
—	—	—	SIDEWALK RAMP TYPE 3	DRAWING NO. CR—5	
—	—	—		DATE: 12/08	
—	—	—		PAGE: 1	
APPROVED BY:					

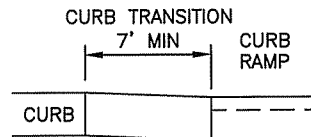
RAMP OFFSET FROM DIRECT LINE OF PEDESTRIAN TRAVEL



SECTION A-A



SECTION B-B

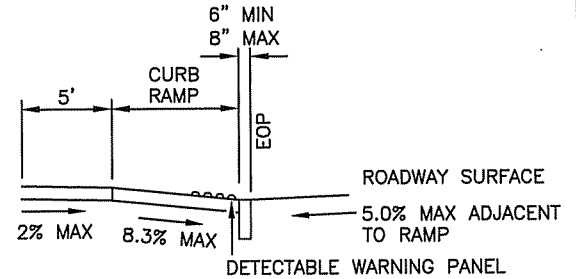
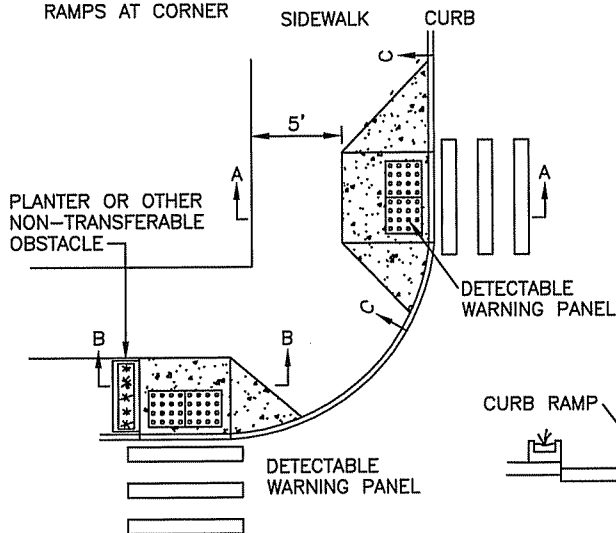


SECTION C-C

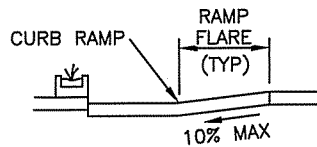
NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET
-	-	-	SIDEWALK RAMP TYPE 4	DRAWING NO. CR-6
-	-	-		DATE: 12/08
-	-	-		PAGE: 1
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PERPENDICULAR RAMP IN URBAN SETTING – WIDE SIDEWALK

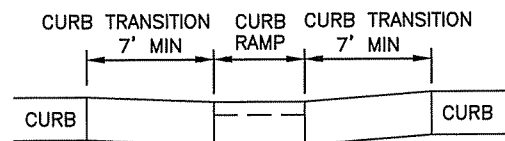
EXAMPLE 1: PAIRED RAMPS AT CORNER



SECTION A-A

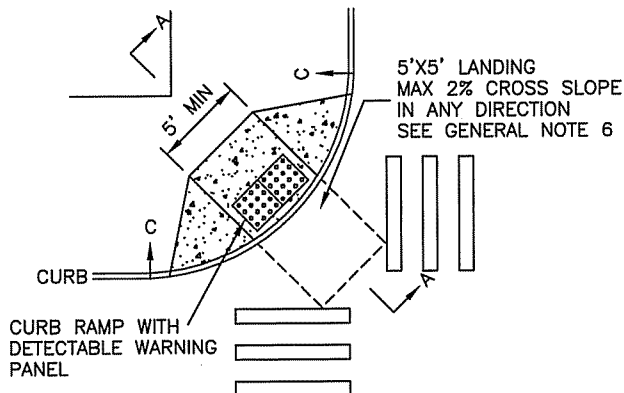


SECTION B-B

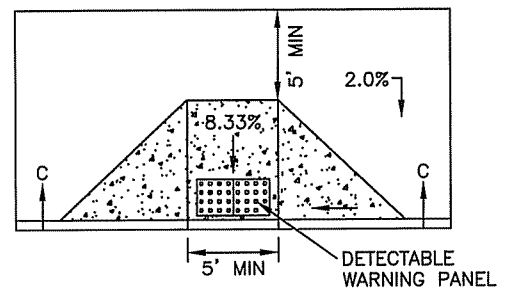


SECTION C-C

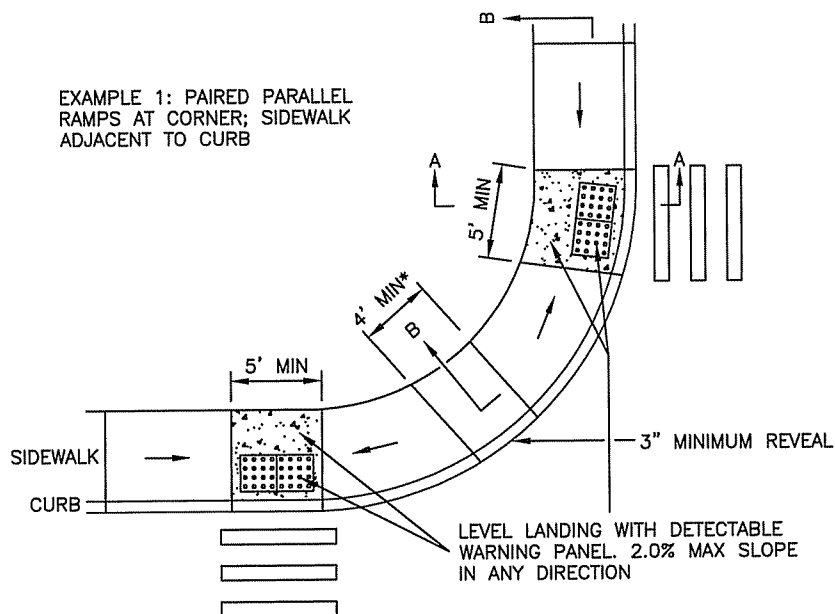
EXAMPLE 2: SINGLE RAMP ON CORNER RADIUS



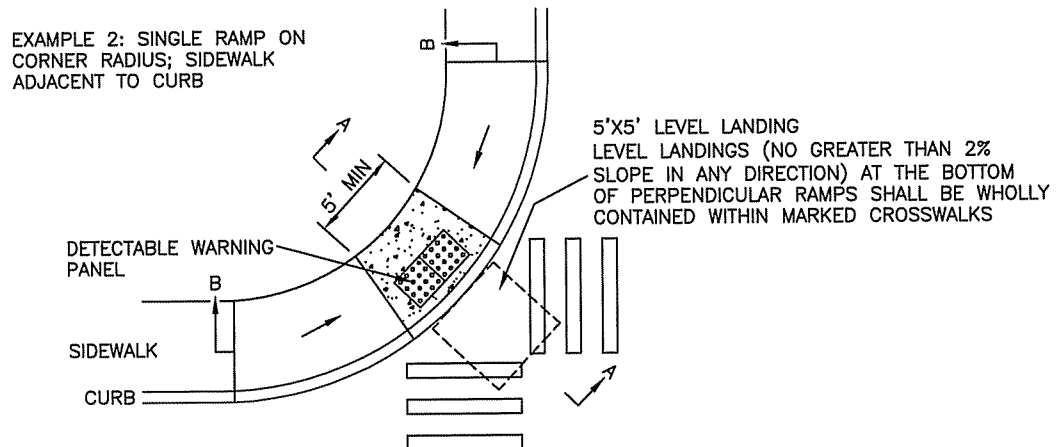
EXAMPLE 3: RAMP ON TANGENT SECTION



NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION:	SITE/STREET
-	-	-	SIDEWALK RAMP TYPE 5	DRAWING NO.	CR-7
-	-	-		DATE:	12/08
-	-	-		PAGE:	1
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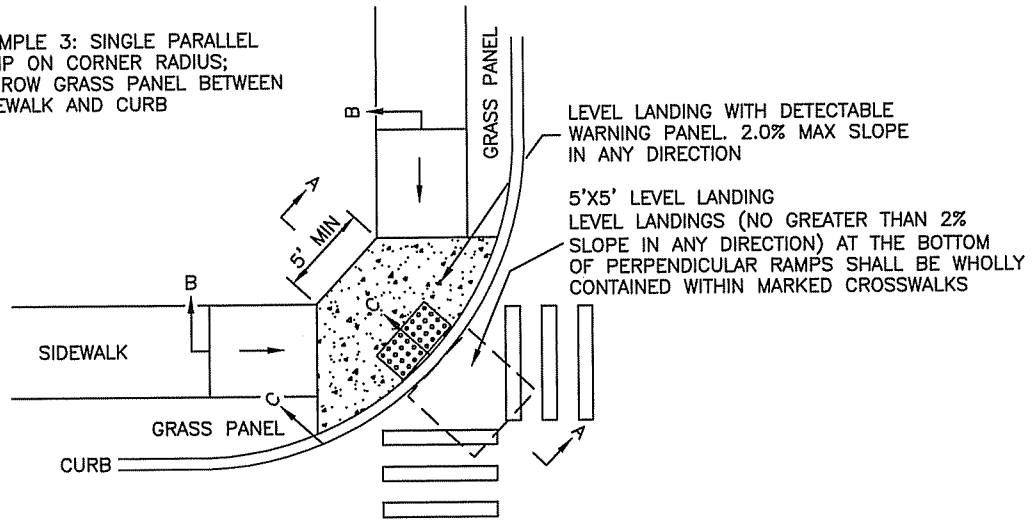


* WHERE A 4' MINIMUM SEPARATION BETWEEN RAMPS CANNOT BE ATTAINED, THE SIDEWALK SHOULD REMAIN AT THE SAME ELEVATION AS ADJOINING LEVEL LANDINGS

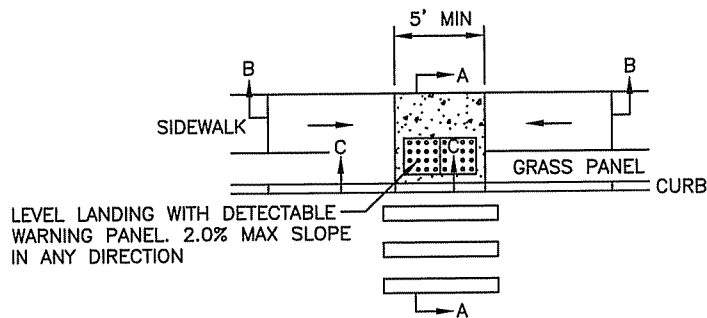


NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION:	SITE/STREET
-	-	-	SIDEWALK RAMP TYPE 6, EXAMPLES 1 & 2	DRAWING NO.	CR-8
-	-	-		DATE:	12/08
-	-	-		PAGE:	1
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EXAMPLE 3: SINGLE PARALLEL
RAMP ON CORNER RADIUS;
NARROW GRASS PANEL BETWEEN
SIDEWALK AND CURB

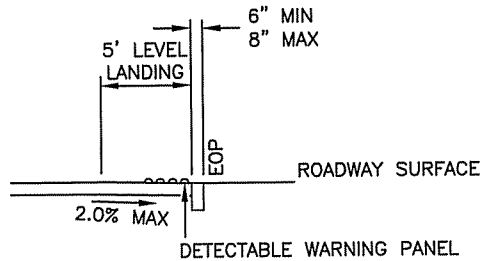
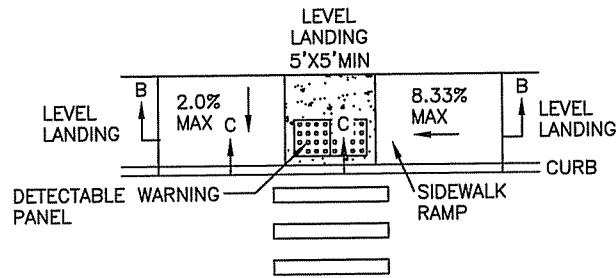


EXAMPLE 4: SINGLE RAMP ON
TANGENT; NARROW GRASS PANEL

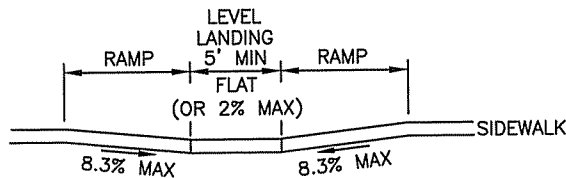


NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET	
-	-	-	SIDEWALK RAMP TYPE 6, EXAMPLES 3 & 4	DRAWING NO. CR-9	
-	-	-		DATE: 12/08	
-	-	-		PAGE: 1	
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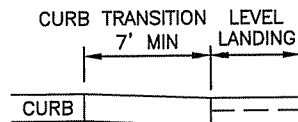
EXAMPLE 5: SINGLE RAMP ON TANGENT:
SIDEWALK ADJACENT TO CURB



SECTION A-A



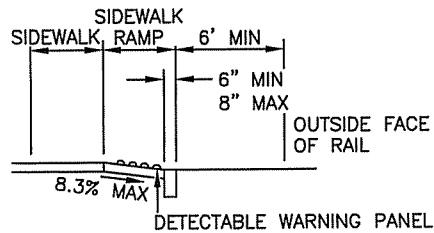
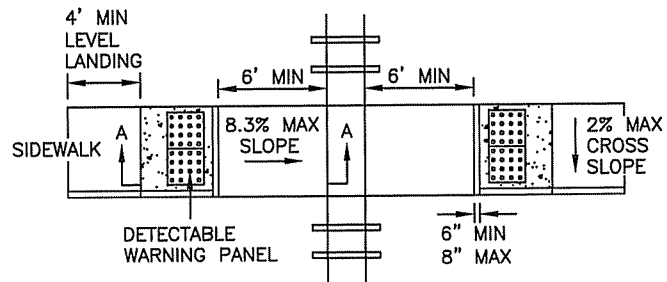
SECTION B-B



SECTION C-C

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET	
-	-	-	SIDEWALK RAMP TYPE 6, EXAMPLE 5 AND TYPE 6 SECTIONS	DRAWING NO. CR-10	
-	-	-		DATE: 12/08	
-	-	-		PAGE: 1	
APPROVED BY:					

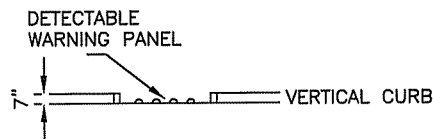
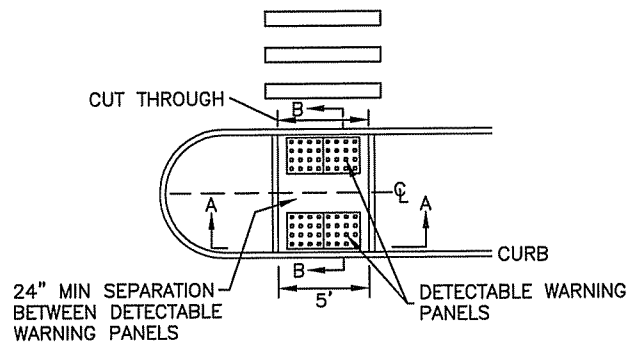
RAILROAD CROSSING



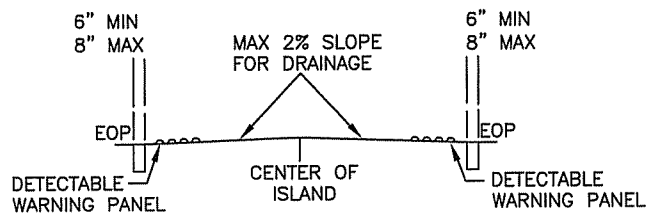
SECTION A-A

NOTE: WHERE A PEDESTRIAN GATE IS PROVIDED ACROSS THE SIDEWALK, THE NEAREST EDGE OF THE DETECTABLE WARNING PANEL SHALL BE A MINIMUM OF 2' FROM THE FACE OF THE GATE ARM.

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET
-	-	-	RAILROAD CROSSING	DRAWING NO. CR-11
-	-	-		DATE: 12/08
-	-	-		PAGE: 1
APPROVED BY:				

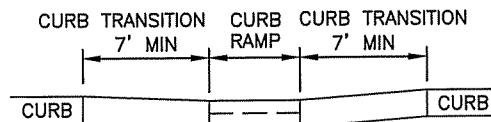
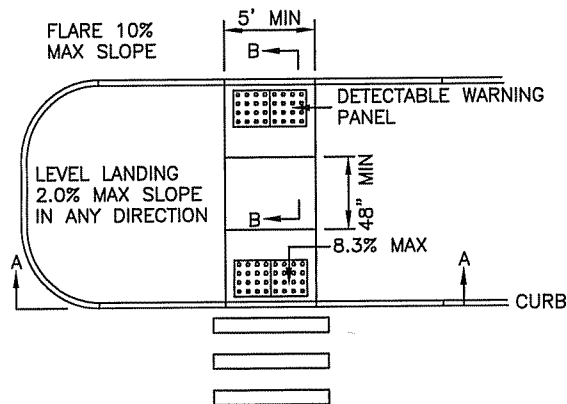


SECTION A-A

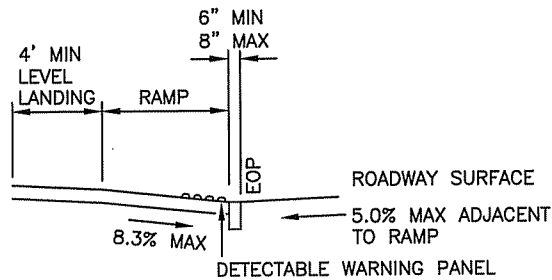


SECTION B-B

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET	
-	-	-	MEDIAN ISLAND CUT THROUGH	DRAWING NO.	CR-12
-	-	-		DATE: 12/08	PAGE: 1
-	-	-			
APPROVED BY:					



SECTION A-A



SECTION B-B

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET	
-	-	-	RAMPS AT WIDE MEDIAN ISLANDS	DRAWING NO.	CR-13
-	-	-		DATE: 12/08	PAGE: 1
-	-	-			
APPROVED BY:					

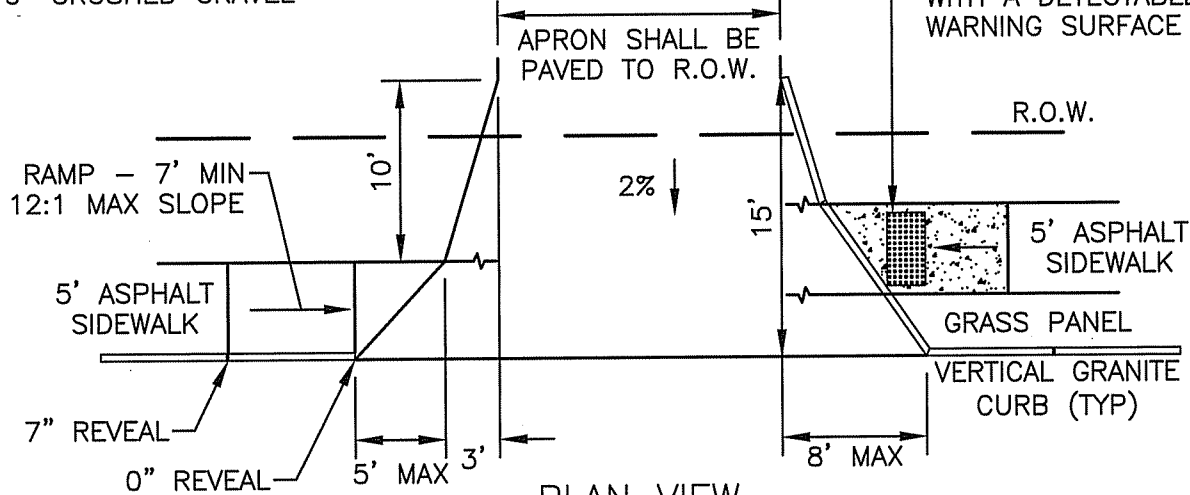
MINIMUM MATERIAL VALUES

1½" WEAR COURSE PAVEMENT
1½" BASE COURSE PAVEMENT
6" CRUSHED GRAVEL

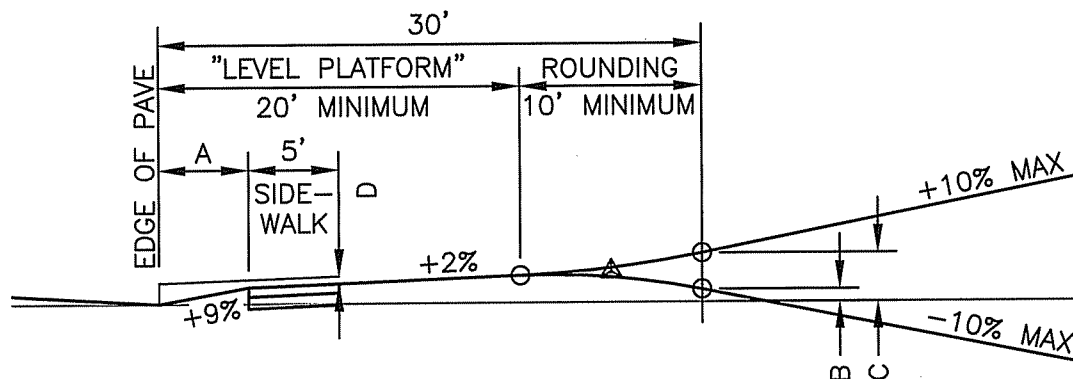
MEASURED AT R.O.W.

12' MIN/28' MAX
22' MIN FOR RESIDENTIAL
COMMON PRIVATE DRIVES

COMMERCIAL DRIVES ONLY:
CONCRETE CURB RAMP
WITH A DETECTABLE
WARNING SURFACE



PLAN VIEW



PROFILE

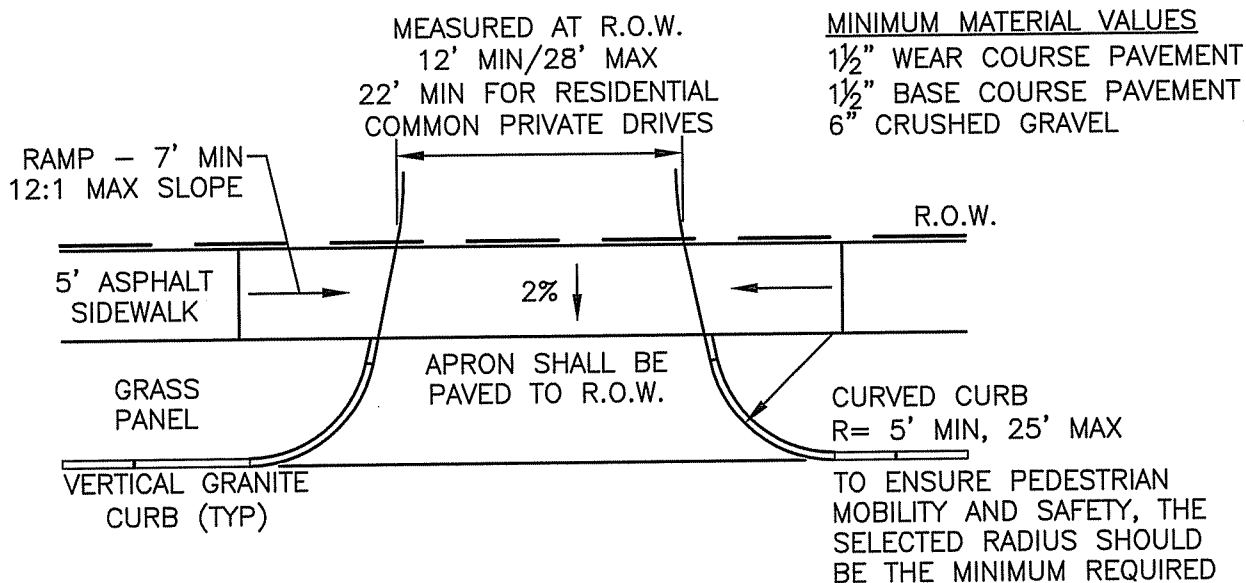
- A -WIDTH OF GRASS PANEL
- B -VERTICAL OFFSET AT 30' FOR DRIVES IN FILL
- C -VERTICAL OFFSET AT 30' FOR DRIVES IN CUT
- D -VERTICAL DROP OF SIDEWALK

VERTICAL CURB			
A	B	C	D
0	0	1'-0"	7"
1'	¾"	1'-¾"	6"
2'	1¾"	1'-1¾"	5¼"
3'	2½"	1'-2½"	4¼"
4'	3¼"	1'-3¼"	3½"

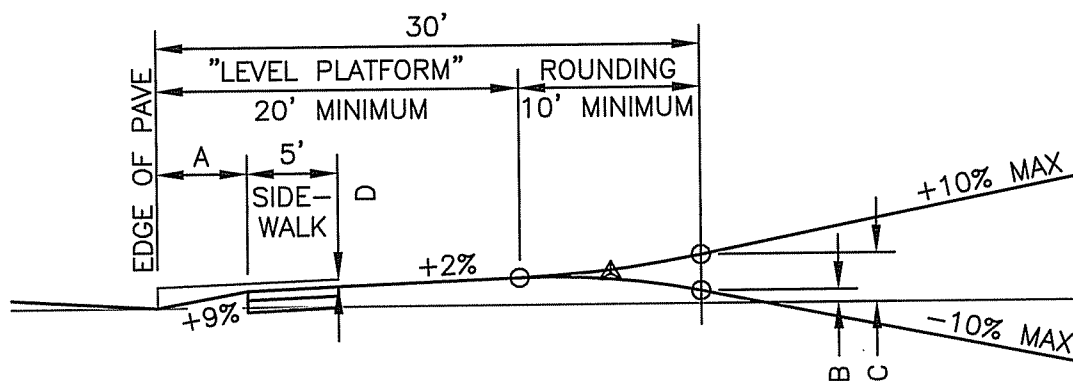
NOTES:

- THE DRIVE WIDTHS AND PROFILE PERTAIN TO ALL URBAN DRIVES, REGARDLESS OF R.O.W. WIDTH OR SIDEWALK LOCATION
- FOR COMMERCIAL DRIVES, DETECTABLE WARNING PANELS SHALL BE PLACED PERPENDICULAR TO THE SIDEWALK WITH THE NEAREST EDGE 6" TO 8" FROM THE DRIVE.

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET
-	-	-	URBAN DRIVE WITH VERTICAL GRANITE CURB, GRASS PANEL WIDTH <5'	DRAWING NO. D-1
-	-	-		DATE: 12/08
-	-	-		PAGE: 1
APPROVED BY:				



PLAN VIEW



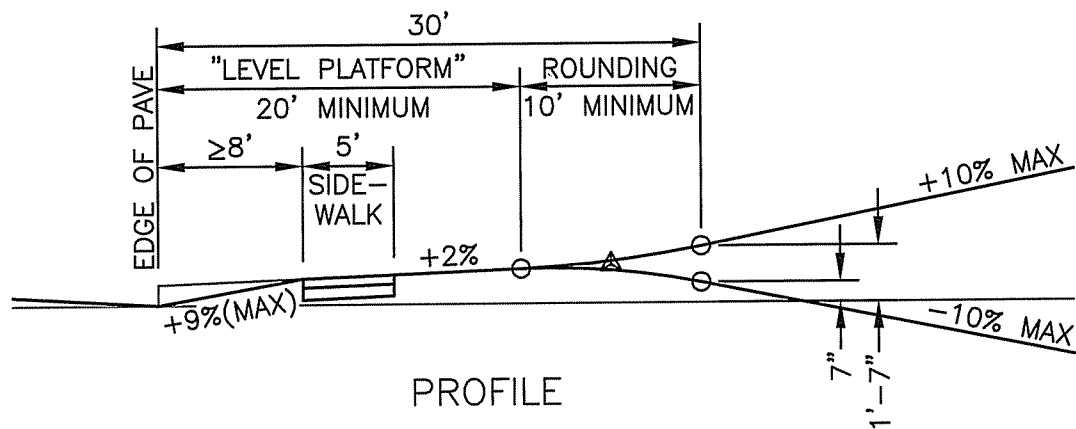
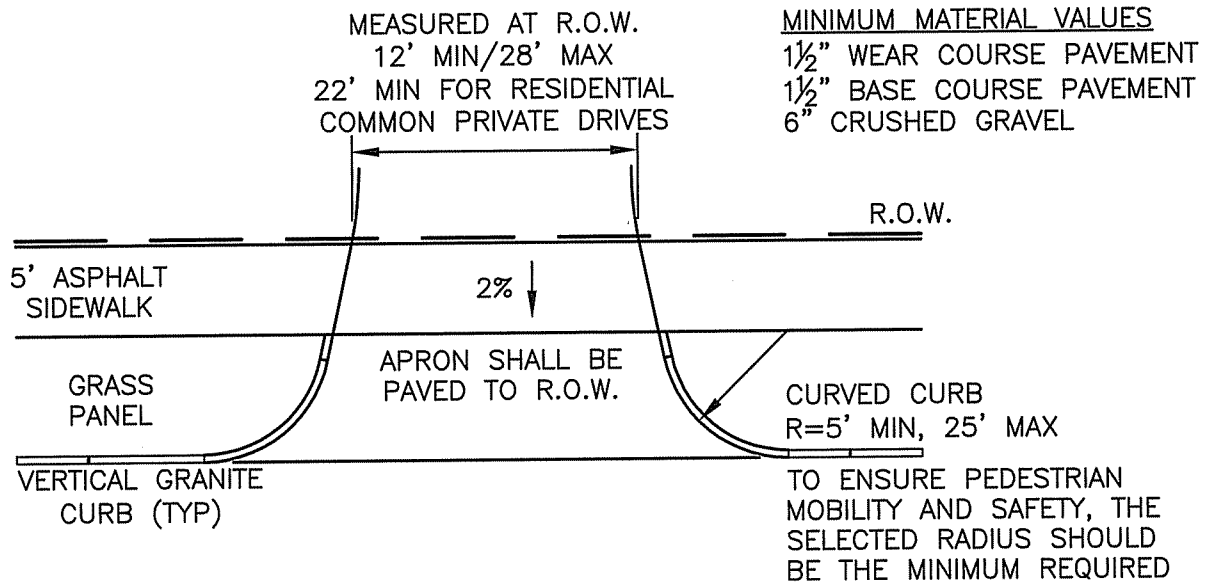
PROFILE

- A -WIDTH OF
GRASS PANEL
- B -VERTICAL OFFSET
AT 30' FOR
DRIVES IN FILL
- C -VERTICAL OFFSET
AT 30' FOR
DRIVES IN CUT
- D -VERTICAL DROP
OF SIDEWALK

VERTICAL CURB			
A	B	C	D
5'	4¼"	1'-4¼"	2¾"
6'	5"	1'-5"	1¾"
7'	6"	1'-6"	1"

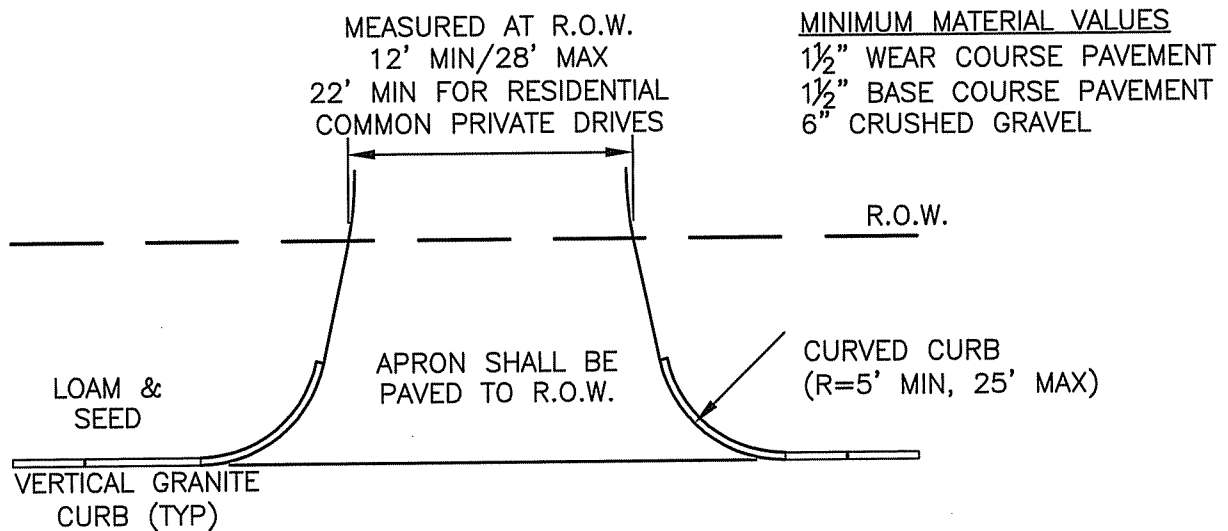
NOTE: THE DRIVE WIDTHS AND PROFILE PERTAIN TO ALL URBAN DRIVES,
REGARDLESS OF R.O.W. WIDTH OR SIDEWALK LOCATION

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET	
-	-	-	URBAN DRIVE WITH VERTICAL GRANITE CURB, AND GRASS PANEL BETWEEN 5' AND 8' WIDE	DRAWING NO. D-2	
-	-	-		DATE: 12/08	
-	-	-		PAGE: 1	
APPROVED BY:					

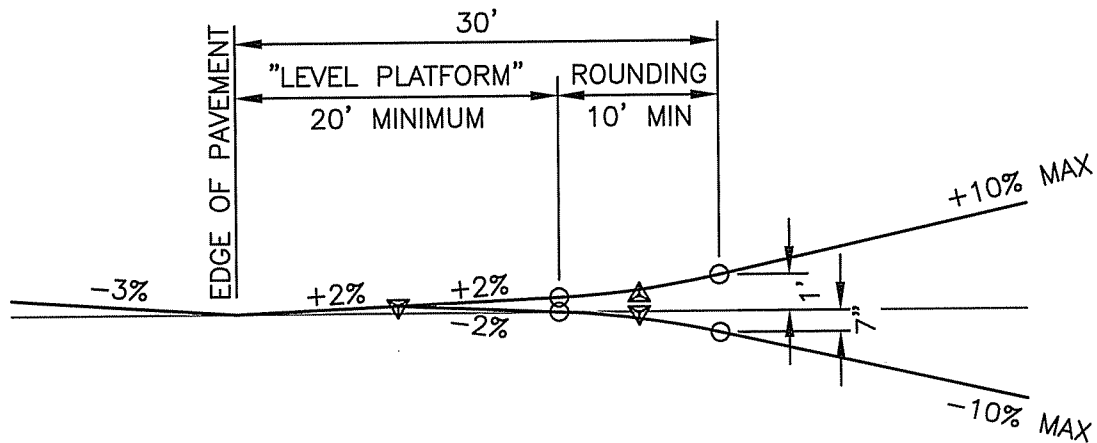


NOTE: THE DRIVE WIDTHS AND PROFILE PERTAIN TO ALL URBAN DRIVES,
REGARDLESS OF R.O.W. WIDTH OR SIDEWALK LOCATION

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET
-	-	-	URBAN DRIVE WITH VERTICAL GRANITE CURB, GRASS PANEL WIDTH ≥8'	DRAWING NO. D-3
-	-	-		DATE: 12/08
-	-	-		PAGE: 1
APPROVED BY:				



PLAN VIEW



PROFILE

NOTE: THE DRIVE WIDTHS AND PROFILE PERTAIN TO ALL URBAN DRIVES,
REGARDLESS OF R.O.W. WIDTH

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET	
-	-	-	URBAN DRIVE WITH VERTICAL GRANITE CURB, W/O SIDEWALK	DRAWING NO. D-4	
-	-	-		DATE: 12/08	
-	-	-		PAGE: 1	
APPROVED BY:					

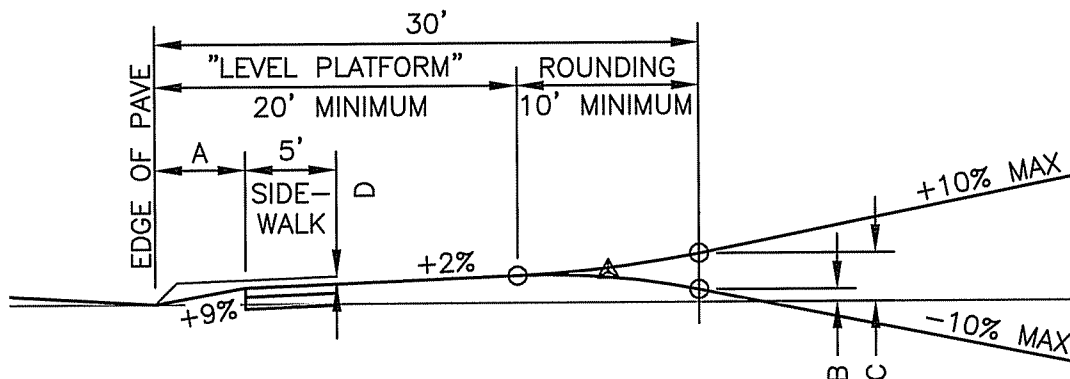
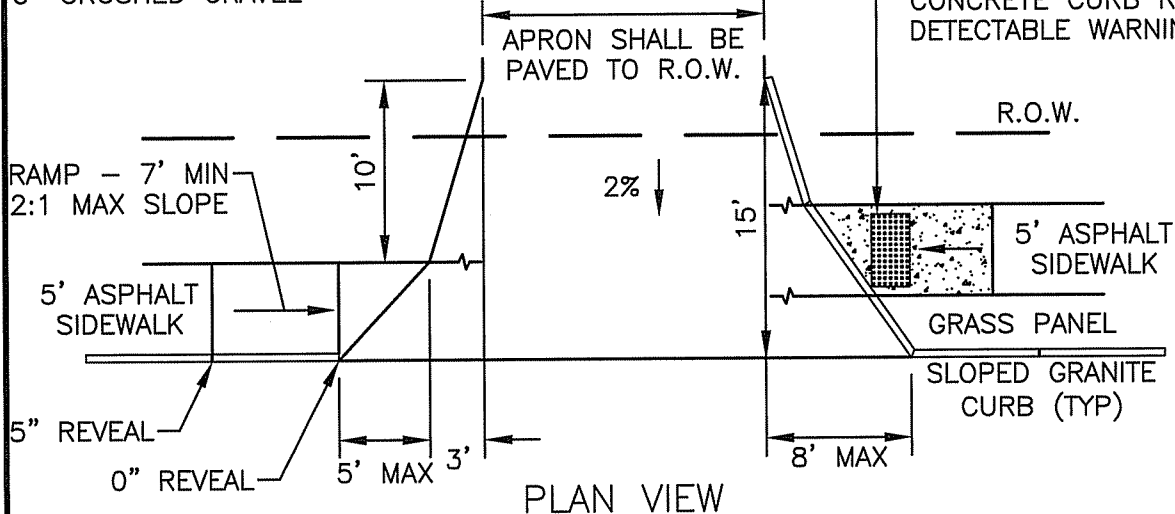
MINIMUM MATERIAL VALUES

1½" WEAR COURSE PAVEMENT
1½" BASE COURSE PAVEMENT
6" CRUSHED GRAVEL

MEASURED AT R.O.W.

12' MIN/28' MAX
22' MIN FOR RESIDENTIAL
COMMON PRIVATE DRIVES

COMMERCIAL DRIVES ONLY:
WHERE "A" IS <5', CONSTRUCT
CONCRETE CURB RAMP WITH
DETECTABLE WARNING SURFACES



PROFILE

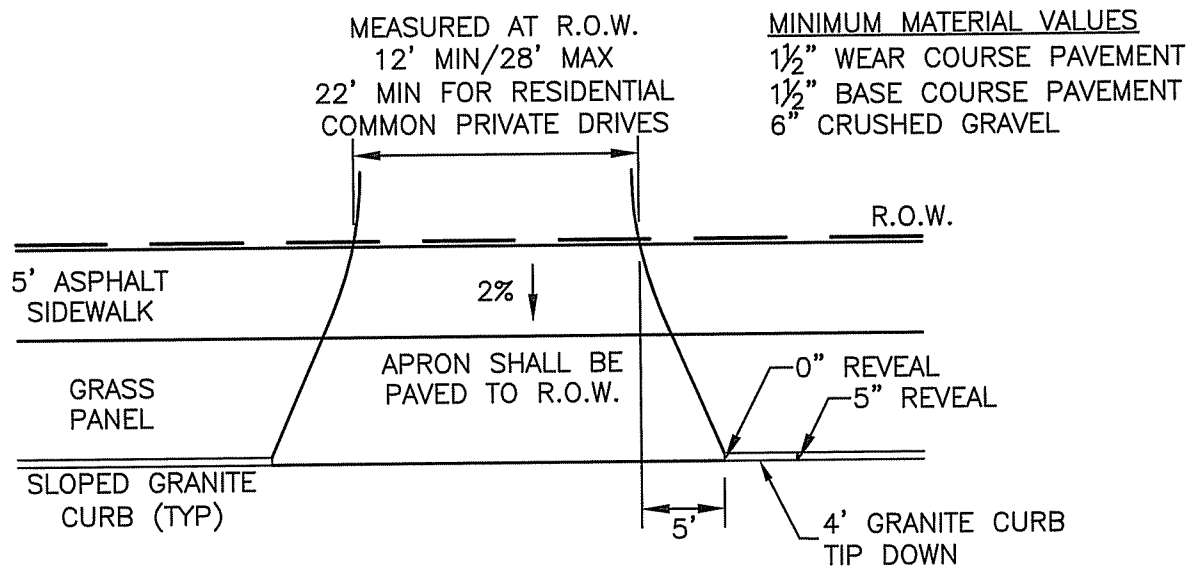
- A -WIDTH OF GRASS PANEL
- B -VERTICAL OFFSET AT 30' FOR DRIVES IN FILL
- C -VERTICAL OFFSET AT 30' FOR DRIVES IN CUT
- D -VERTICAL DROP OF SIDEWALK

SLOPED CURB			
A	B	C	D
0	0	1'-0"	5"
1'	¾"	1'-¾"	4"
2'	1¾"	1'-1¾"	3¼"
3'	2½"	1'-2½"	2¼"
4'	3¼"	1'-3¼"	1½"
5'	5"	1'-4¼"	¾"

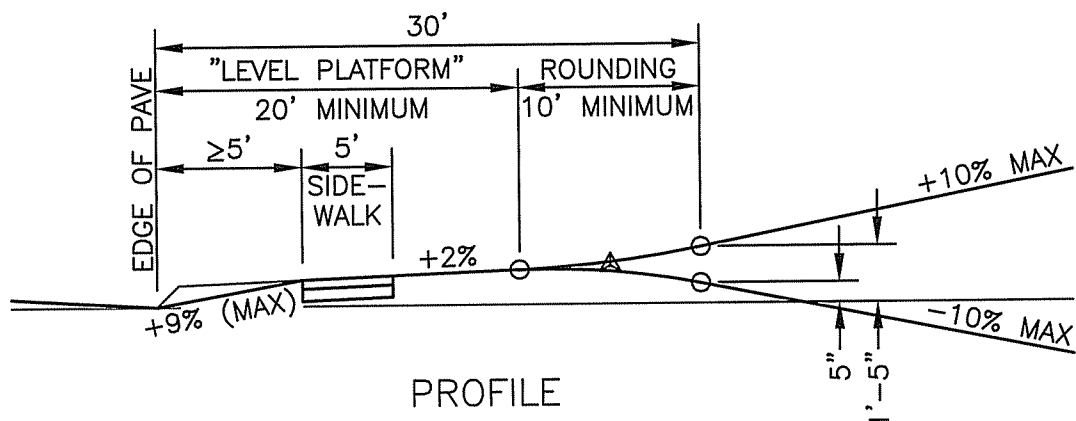
NOTES:

- THE DRIVE WIDTHS AND PROFILE PERTAIN TO ALL URBAN DRIVES, REGARDLESS OF R.O.W. WIDTH OR SIDEWALK LOCATION
- FOR COMMERCIAL DRIVES, DETECTABLE WARNING PANELS SHALL BE PLACED PERPENDICULAR TO THE SIDEWALK WITH THE NEAREST EDGE 6" TO 8" FROM THE DRIVE.

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET
-	-	-	URBAN DRIVE WITH SLOPED GRANITE CURB, GRASS PANEL WIDTH <6'	DRAWING NO. D-5
-	-	-		DATE: 12/08
-	-	-		PAGE: 1
APPROVED BY:				



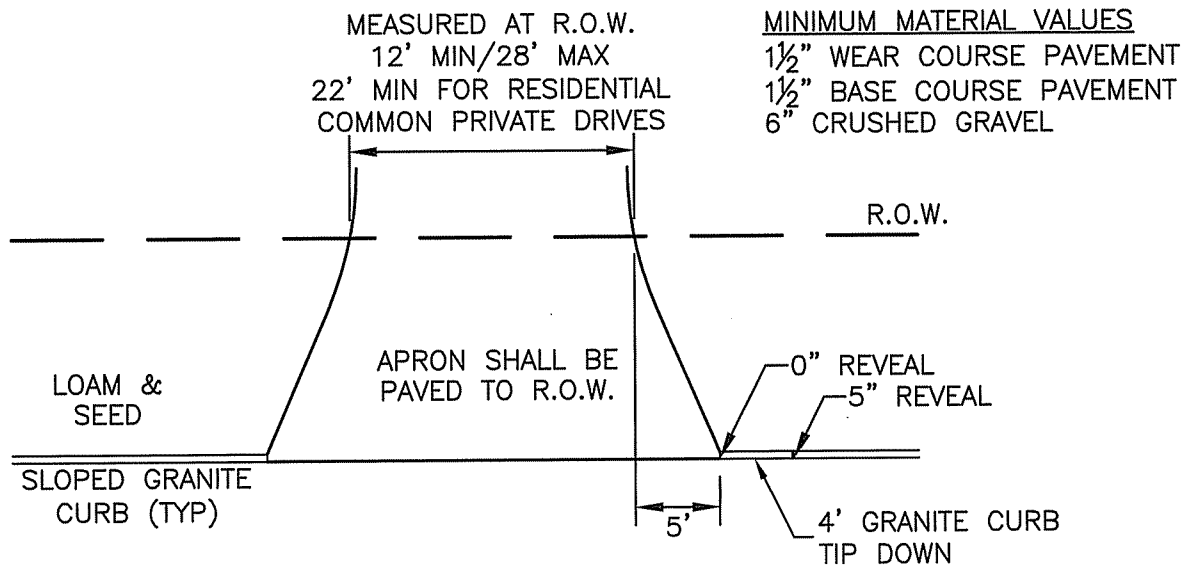
PLAN VIEW



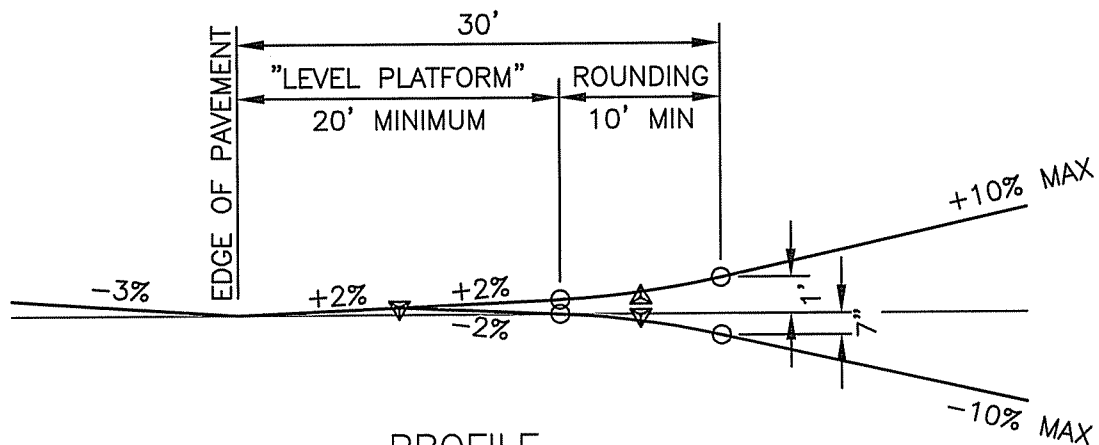
PROFILE

NOTE: THE DRIVE WIDTHS AND PROFILE PERTAIN TO ALL URBAN DRIVES, REGARDLESS OF R.O.W. WIDTH OR SIDEWALK LOCATION

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET
-	-	-	URBAN DRIVE WITH SLOPED GRANITE CURB, GRASS PANEL WIDTH ≥6'	DRAWING NO. D-6
-	-	-		DATE: 12/08
-	-	-		PAGE: 1
APPROVED BY:				



PLAN VIEW



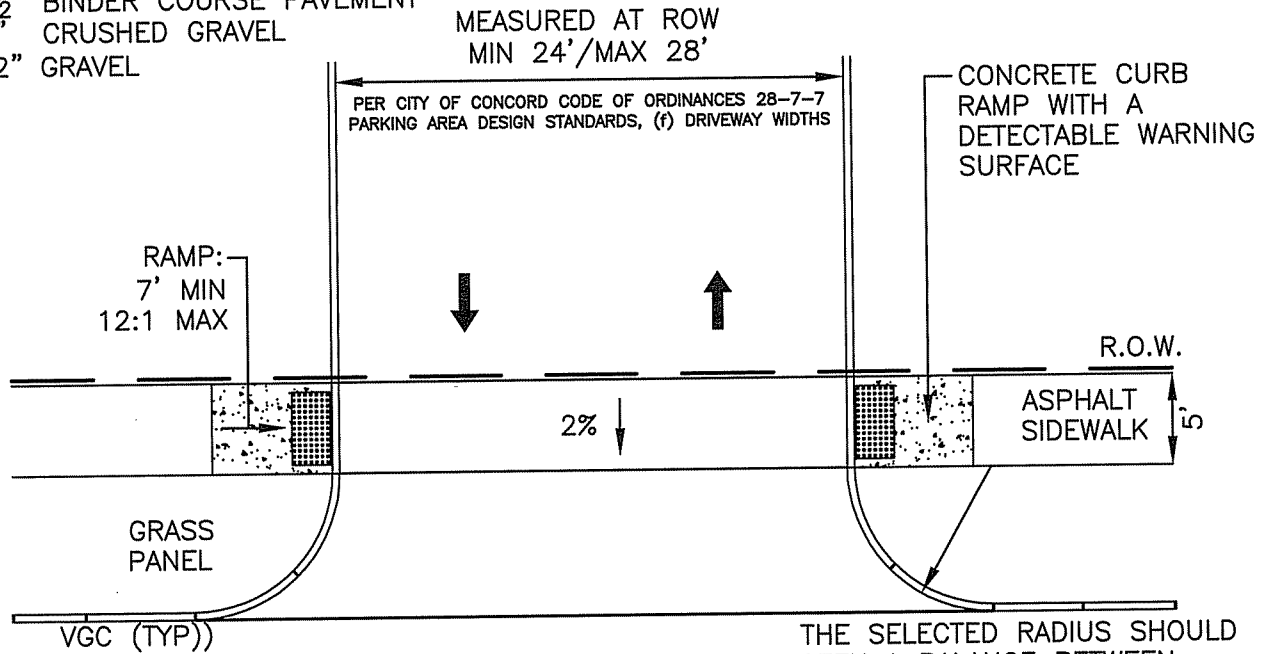
PROFILE

NOTE: THE DRIVE WIDTHS AND PROFILE PERTAIN TO ALL URBAN DRIVES,
REGARDLESS OF R.O.W. WIDTH

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET
-	-	-	URBAN DRIVE WITH SLOPED GRANITE CURB, W/O SIDEWALK	DRAWING NO. D-7
-	-	-		DATE: 12/08
-	-	-		PAGE: 1
APPROVED BY:				

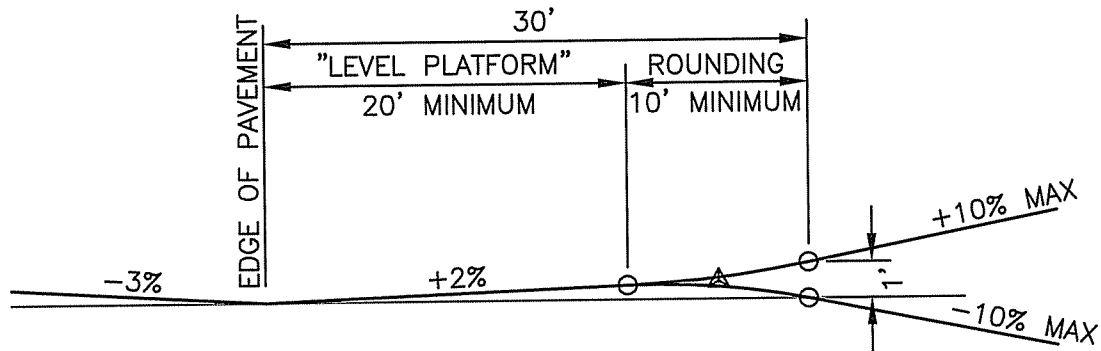
MINIMUM MATERIAL VALUES

- 1½" WEAR COURSE PAVEMENT
- 1½" BINDER COURSE PAVEMENT
- 6" CRUSHED GRAVEL
- 12" GRAVEL



THE SELECTED RADIUS SHOULD SEEK A BALANCE BETWEEN ACCOMMODATING TURNING VEHICLES AND ENSURING PEDESTRIAN MOBILITY AND SAFETY. A WIDER DRIVEWAY WIDTH WITH A SMALLER RADIUS MAY BE A BETTER CHOICE TO ACCOMPLISH THIS GOAL.

PLAN VIEW



PROFILE

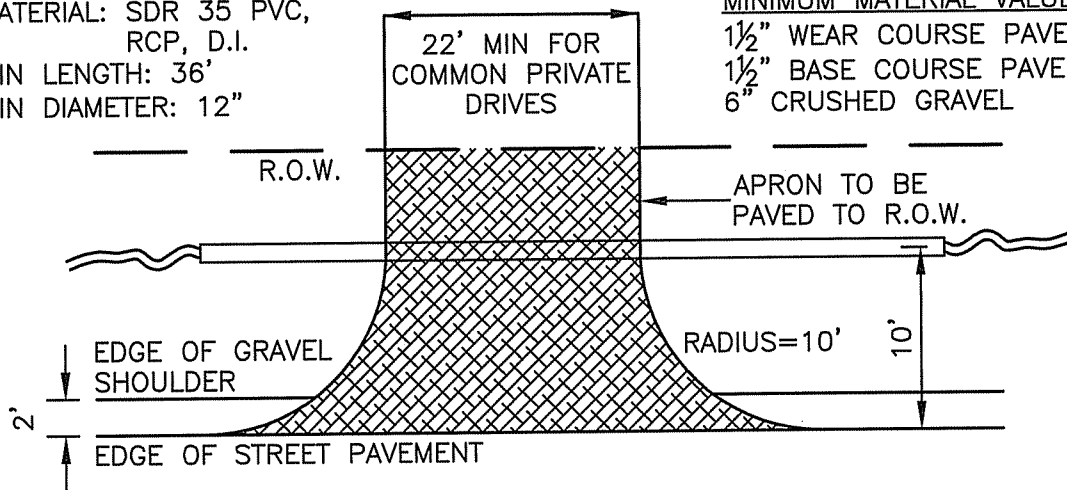
NOTE: THIS DETAIL IS TO BE USED FOR SITES WHERE THE DRIVEWAY REQUIRES TRAFFIC SIGNALS AND/OR ACTS AS A STREET.

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET	
-	-	-	MAJOR COMMERCIAL DRIVE	DRAWING NO. D-8	
-	-	-		DATE: 12/08	
-	-	-		PAGE: 1	
APPROVED BY:					

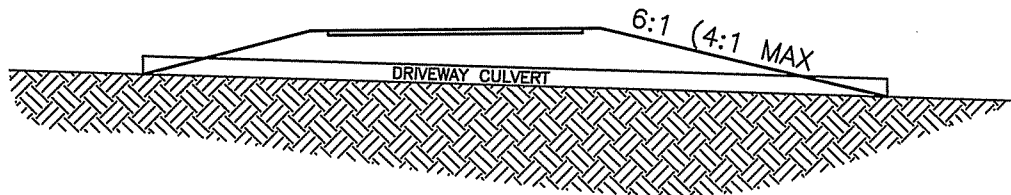
DRIVEWAY CULVERT
 MATERIAL: SDR 35 PVC,
 RCP, D.I.
 MIN LENGTH: 36'
 MIN DIAMETER: 12"

MEASURED AT ROW
 12' MIN/18' MAX

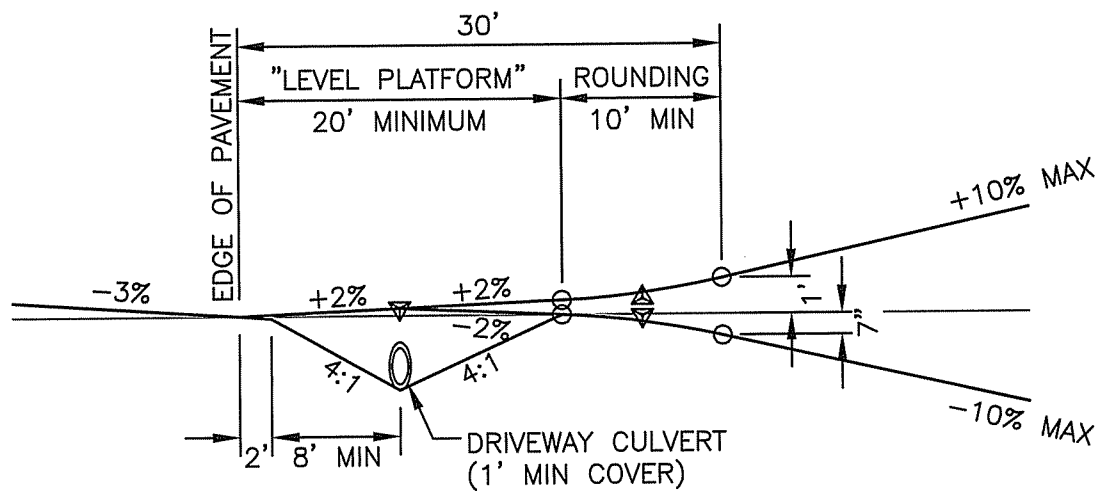
MINIMUM MATERIAL VALUES
 1½" WEAR COURSE PAVEMENT
 1½" BASE COURSE PAVEMENT
 6" CRUSHED GRAVEL



PLAN VIEW

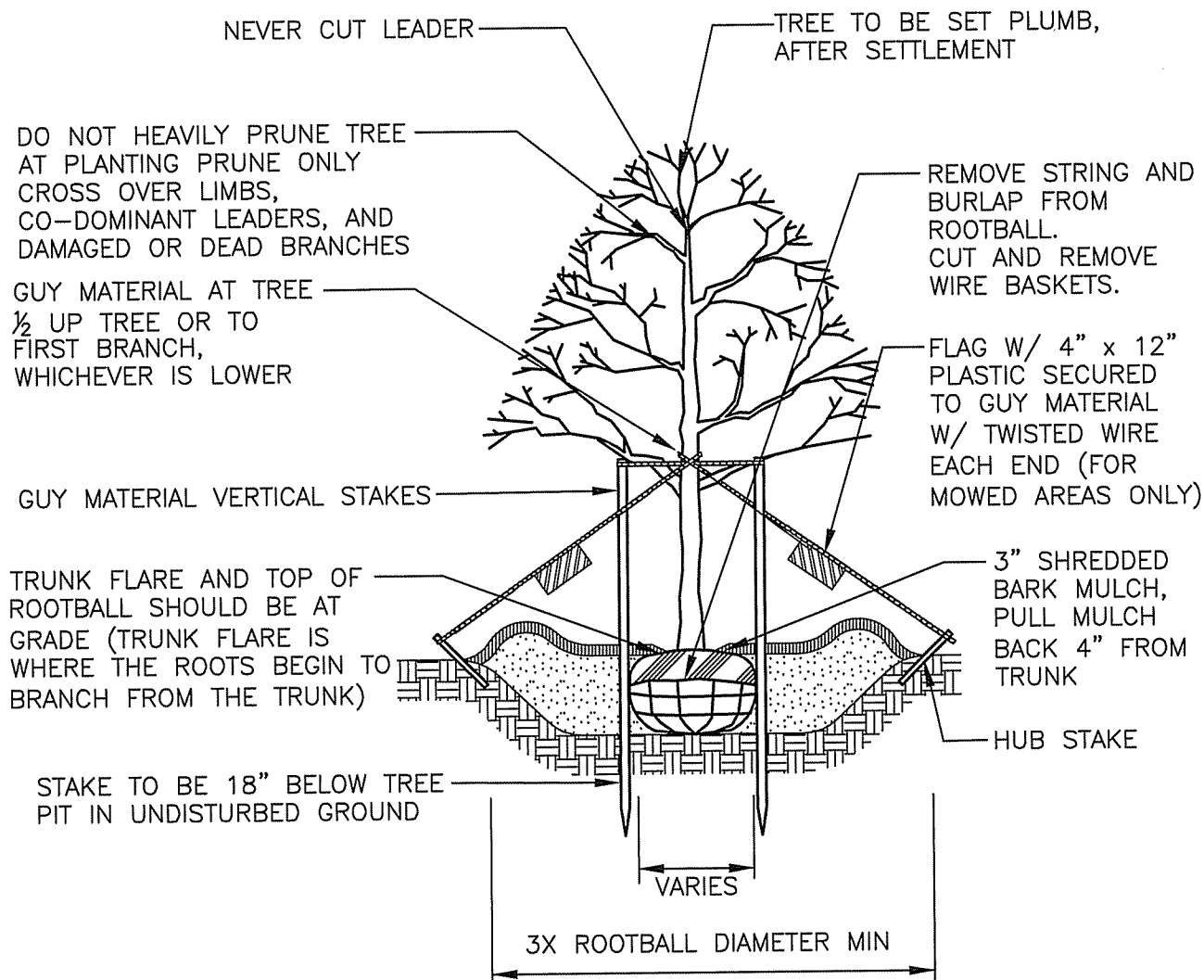


SECTION VIEW



PROFILE

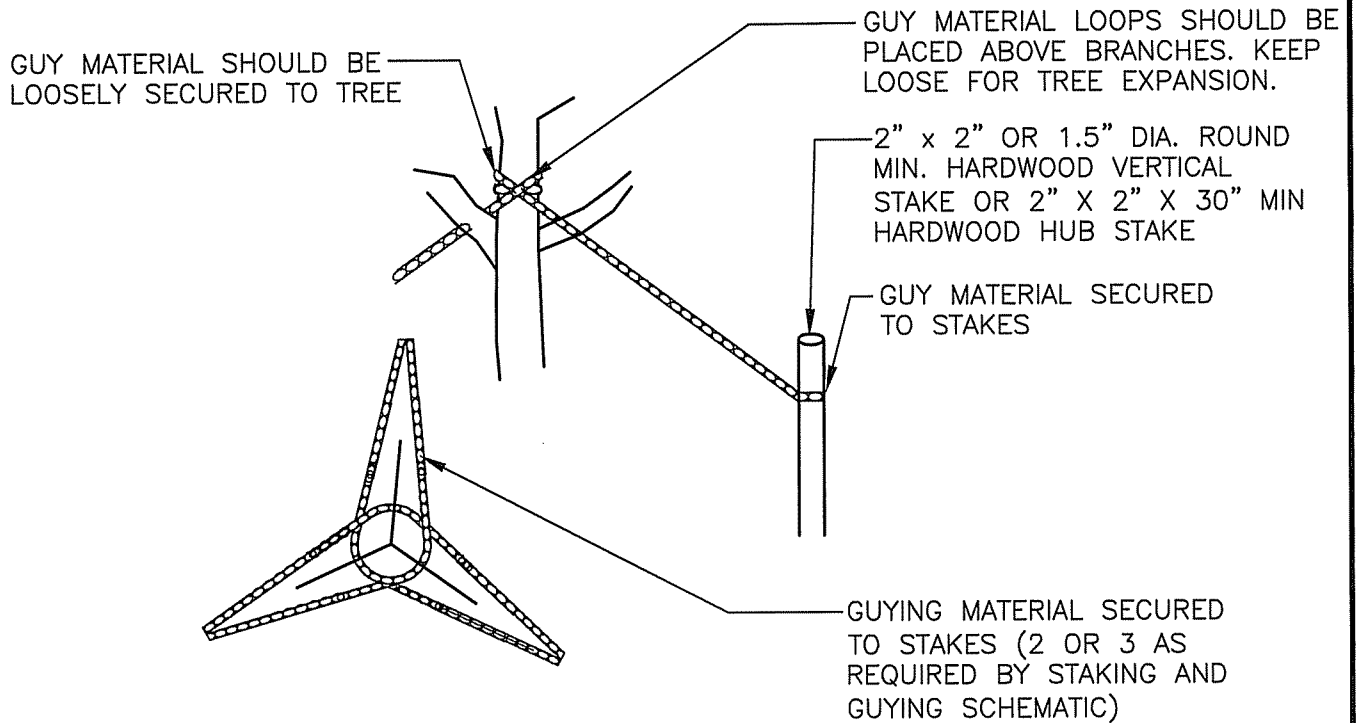
NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET
-	-	-	RURAL RESIDENTIAL DRIVE	DRAWING NO. D-9
-	-	-		DATE: 12/08
-	-	-		PAGE: 1
APPROVED BY:				



NOTES:

1. GUYING AND STAKING TO BE DETERMINED IN THE FIELD BY THE LANDSCAPE ARCHITECT. LOCAL FIELD CONDITIONS AS WELL AS PLANT CHARACTERISTICS WILL DETERMINE THE NECESSITY OF GUYING AND STAKING.
2. TYPICALLY ONLY TREES WITH A 3" OR GREATER CALIPER NEED TO BE STAKED. TREES WITH LESS THAN A 3" CALIPER NEED TO BE STAKED ONLY AS REQUIRED BY LANDSCAPE ARCHITECT.
3. ONLY WRAP TREE TRUNKS AS REQUIRED BY LANDSCAPE ARCHITECT.
4. TREE SHALL BE SET PLUMB, AFTER SETTLEMENT.
5. LOAM FOR BACKFILLING SHALL BE AMENDED AS REQUIRED BY LANDSCAPE ARCHITECT.
6. CITY TREES PLANTED ON PRIVATE PROPERTY, ADJACENT TO A PUBLIC RIGHT-OF-WAY, NEED TO BE PLANTED A MINIMUM OF 5 FEET FROM THE EDGE OF THE CITY SIDEWALK.

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: LANDSCAPE	
—	—	—	DECIDUOUS TREE PLANTING	DRAWING NO. L-1	
—	—	—		DATE: 12/08	
—	—	—		1	
APPROVED BY:					



NOTE:
ONLY USE PLASTIC CHAINLOCK (LANDSCAPE QUALITY AND SUITABLE FOR GUYING TREES) OR EQUIVALENT GUYING MATERIAL.

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION:	LANDSCAPE
-	-	-	DECIDUOUS TREE – GUYING & STAKING	DRAWING NO.	L-2
-	-	-		DATE:	12/08
-	-	-			1
APPROVED BY:					

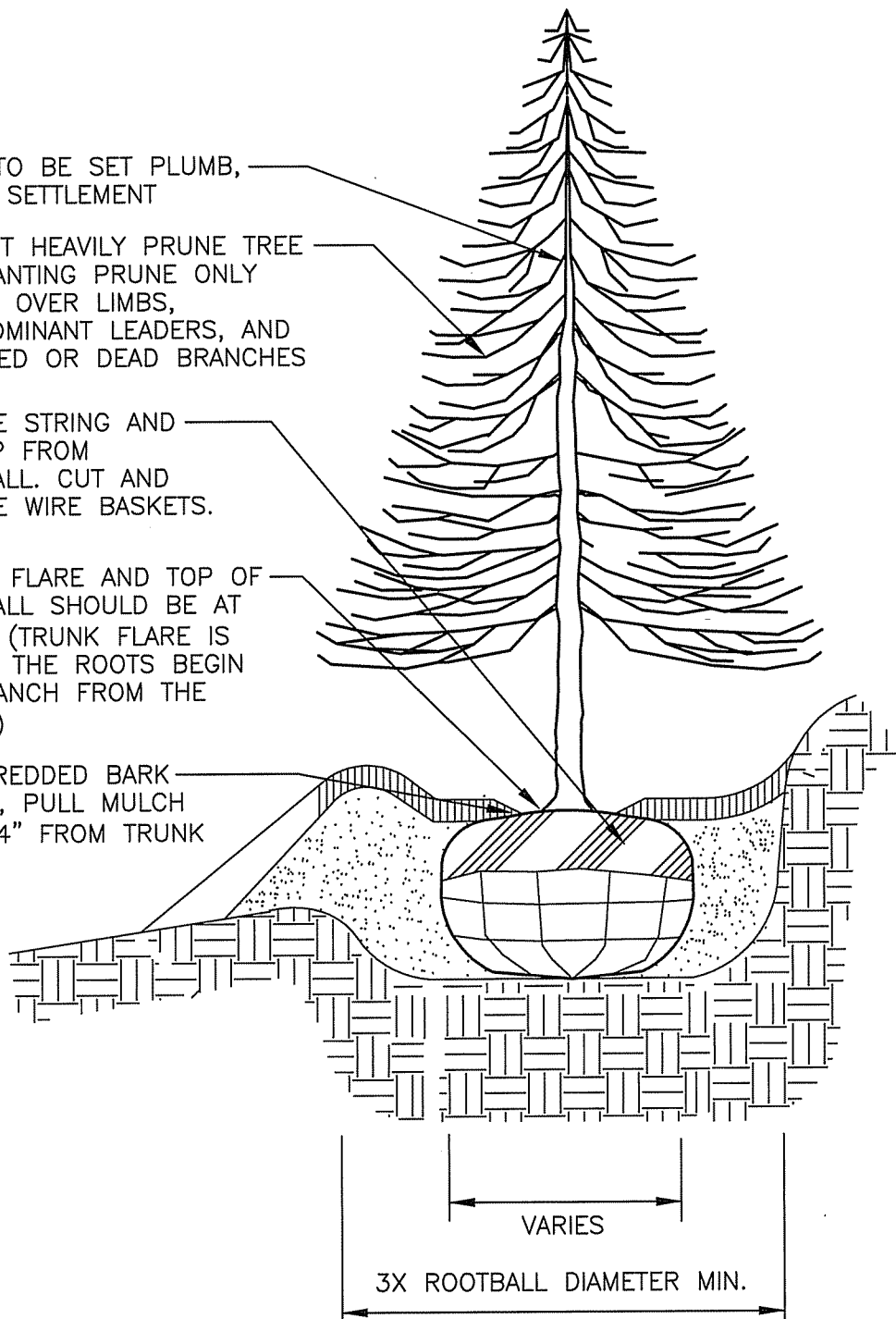
TREE TO BE SET PLUMB,
AFTER SETTLEMENT

DO NOT HEAVILY PRUNE TREE
AT PLANTING PRUNE ONLY
CROSS OVER LIMBS,
CO-DOMINANT LEADERS, AND
DAMAGED OR DEAD BRANCHES

REMOVE STRING AND
BURLAP FROM
ROOTBALL. CUT AND
REMOVE WIRE BASKETS.

TRUNK FLARE AND TOP OF
ROOTBALL SHOULD BE AT
GRADE (TRUNK FLARE IS
WHERE THE ROOTS BEGIN
TO BRANCH FROM THE
TRUNK)

3" SHREDDED BARK
MULCH, PULL MULCH
BACK 4" FROM TRUNK



NOTES:

1. DO NOT STAKE EVERGREEN TREES.
2. LOAM FOR BACKFILLING SHALL BE AMENDED AS REQUIRED BY LANDSCAPE ARCHITECT.
3. TAMP BACKFILL SOIL AROUND ROOTBALL FIRMLY TO MINIMIZE ROOTBALL SHIFT.

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: LANDSCAPE	
-	-	-	EVERGREEN PLANTING	DRAWING NO.	L-3
-	-	-		DATE:	12/08
-	-	-			1
APPROVED BY:					

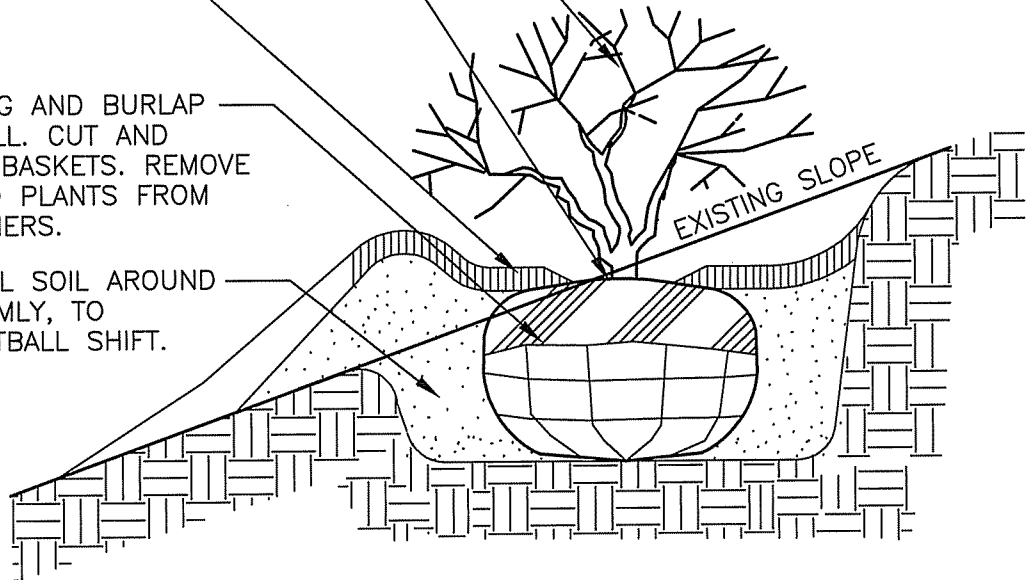
SHRUB TO BE SET PLUMB,
AFTER SETTLEMENT

TRUNK FLARE AND TOP OF
ROOTBALL SHOULD BE AT
GRADE (TRUNK FLARE IS
WHERE THE ROOTS BEGIN
TO BRANCH FROM THE
TRUNK)

3" SHREDDED BARK
MULCH, PULL MULCH
BACK 4" FROM
TRUNK

REMOVE STRING AND BURLAP
FROM ROOTBALL. CUT AND
REMOVE WIRE BASKETS. REMOVE
CONTAINERIZED PLANTS FROM
THEIR CONTAINERS.

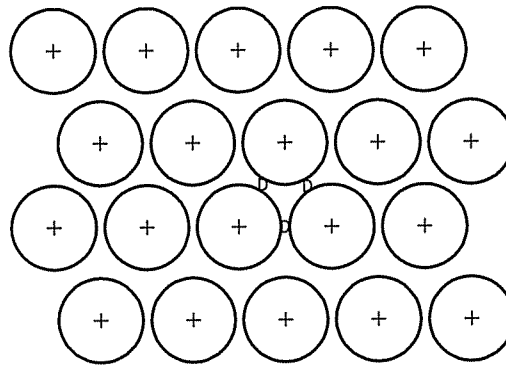
TAMP BACKFILL SOIL AROUND
ROOTBALL FIRMLY, TO
MINIMIZE ROOTBALL SHIFT.



NOTE:

1. DO NOT HEAVILY PRUNE SHRUB AT PLANTING, PRUNE ONLY CROSSOVER LIMBS AND DAMAGED OR DEAD BRANCHES.
2. BACKFILL WITH LOAM, AMEND AS REQUIRED BY LANDSCAPE ARCHITECT.
3. SHRUBS & GROUNDCOVER PLANTED ADJACENT TO CITY SIDEWALKS NEED TO BE PLACED SO THE PLANTS, AT THEIR MATURE HEIGHT & WIDTH, WILL NOT ENCROACH INTO THE CITY'S SIDEWALK.

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: LANDSCAPE	
—	—	—	SHRUB PLANTING	DRAWING NO. L—4	
—	—	—		DATE: 12/08 PAGE: 1	
—	—	—			
APPROVED BY:					



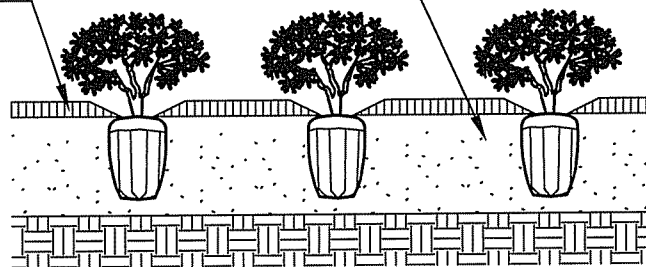
TYPICAL BED PLANT SPACING

NOTE:

D = DIMENSION OF PLANT SPACING (SHRUB OR
GROUND COVER AS INDICATED ON PLANS)

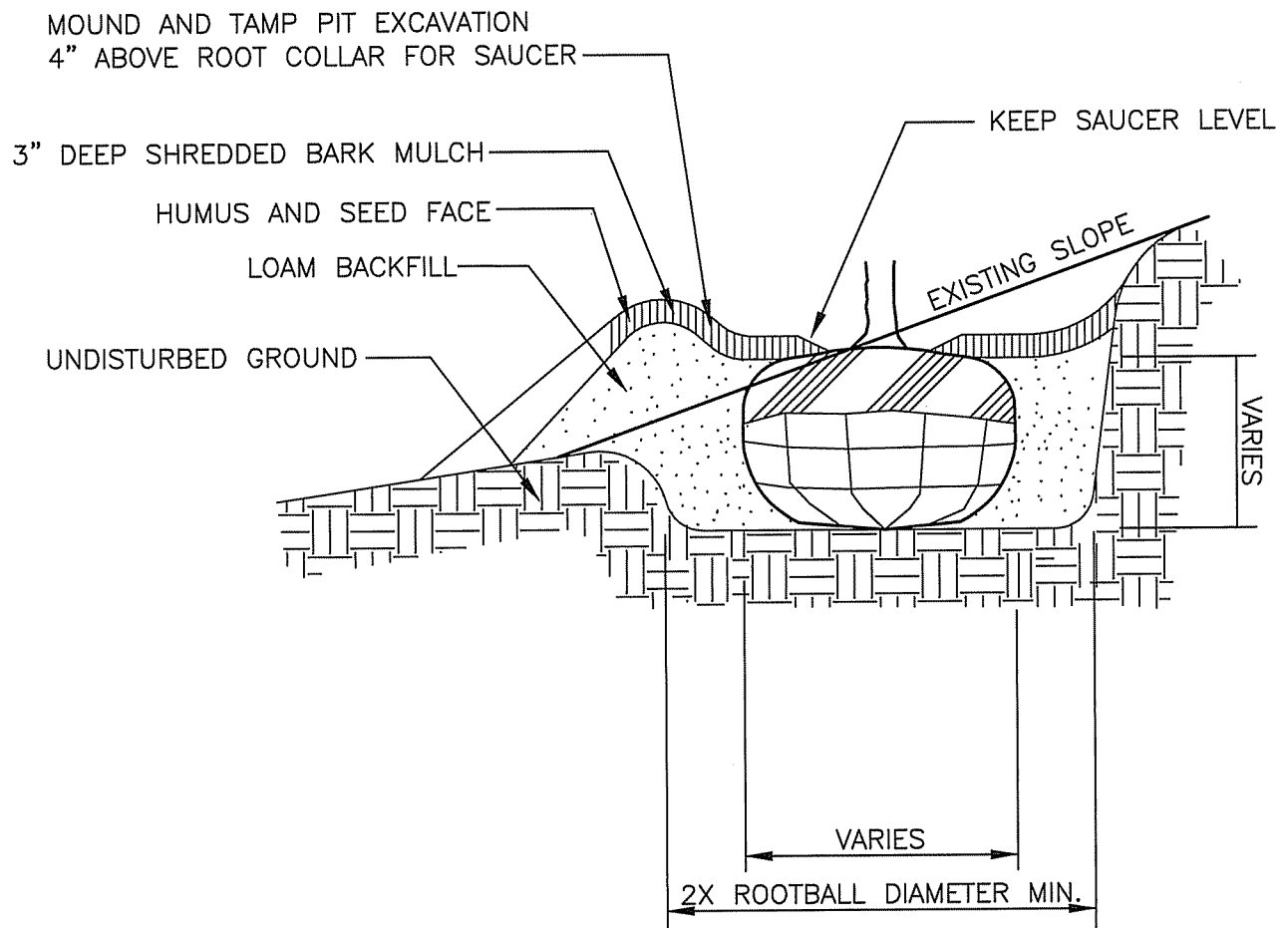
12" LOAM BACKFILL (CONTINUOUS
THROUGHOUT BED AREA)

3" DEEP SHREDDED
BARK MULCH



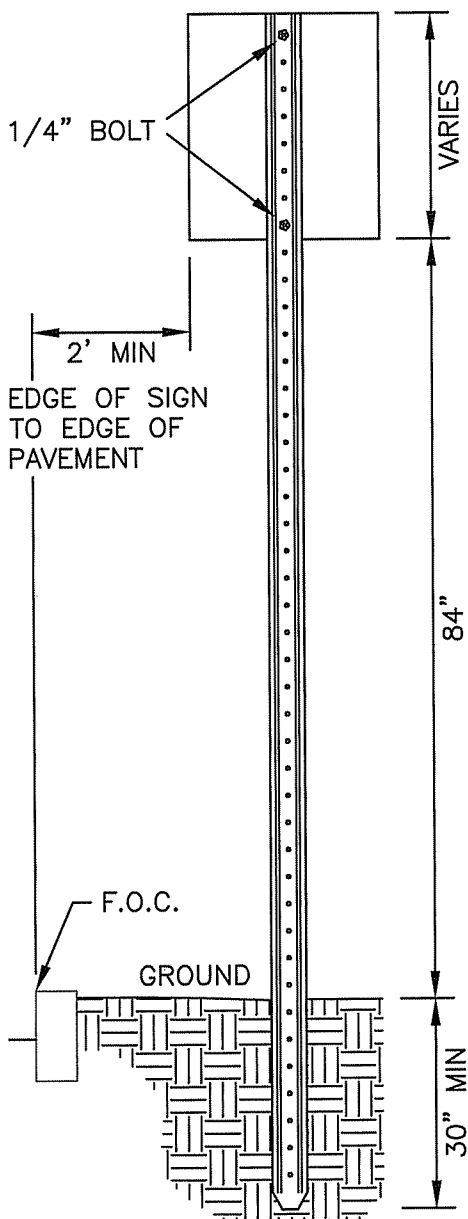
GROUND COVER BED PLANTING

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: LANDSCAPE	
—	—	—	GROUNDCOVER PLANTING	DRAWING NO. L-5	
—	—	—		DATE: 12/08	
—	—	—		PAGE: 1	
APPROVED BY:					



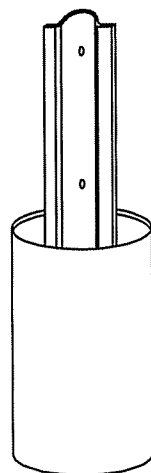
TYPICAL PLANTING PIT ON SLOPE 4:1 OR GREATER

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: LANDSCAPE	
—	—	—	TREE PLANTING ON SLOPE	DRAWING NO. L-6	
—	—	—		DATE: 12/08	
—	—	—		PAGE: 1	
APPROVED BY:					



NOTES:

1. POSTS SHALL BE PLUMB. ANY POST BENT OR OTHERWISE DAMAGED SHALL BE REMOVED AND REPLACED. CUTTING THE DAMAGED PORTION OUT AND SPLICING THE POST TOGETHER IS NOT ACCEPTABLE.
2. WHEN POSTS ARE SET, THE HOLES SHALL BE DUG TO THE PROPER DEPTH. AFTER INSERTING POSTS, THE HOLES SHALL BE BACK FILLED WITH SUITABLE MATERIAL IN LAYERS NOT EXCEEDING 6" DEEP WHEN COMPACTED; CARE BEING TAKEN TO PRESERVE THE ALIGNMENT OF THE POST.
3. WHEN POSTS ARE DRIVEN, A SUITABLE DRIVING CAP SHALL BE USED. AFTER DRIVING, THE TOP OF THE POST SHALL HAVE THE SAME CROSS-SECTIONAL DIMENSION AS THE BODY OF THE POST. BATTERED HEADS WILL NOT BE ACCEPTED.
4. POSTS SHALL NOT BE DRIVEN WITH THE SIGN ATTACHED TO THE POST.
5. SIGNS SHALL BE ERECTED IN CONFORMANCE WITH THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES"
6. WHEN SIGN IS IN PLACE, NO PART OF THE POST SHALL EXTEND ABOVE SIGN.

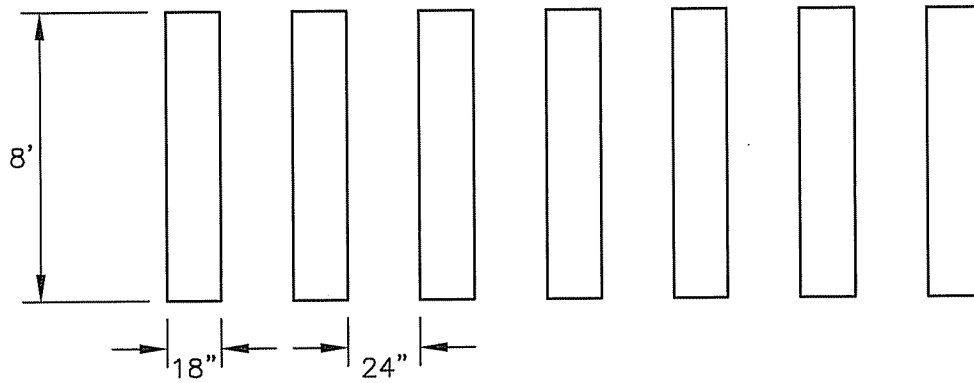
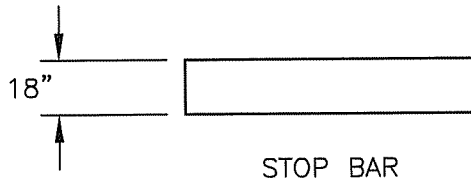


GREEN ENAMEL, 3#/FT
FLANGED CHANNEL STEEL
POST

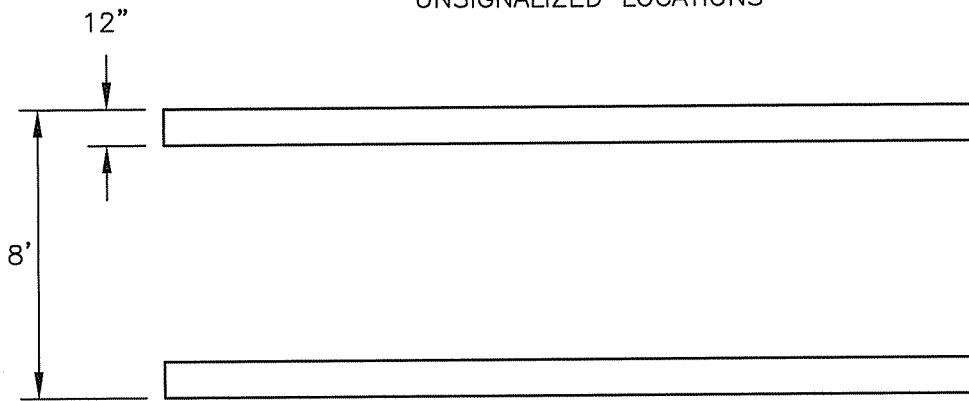
PVC OR STEEL SLEEVE
REQUIRED IN PAVED OR
CONCRETE LOCATIONS

SLEEVE WILL BE LARGE
ENOUGH TO ALLOW FOR
REPLACEMENT POST

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET
-	-	-	ROAD SIGN POST and SLEEVE - URBAN	DRAWING NO. M-1
-	-	-		DATE: 12/08
-	-	-		PAGE: 1
APPROVED BY:				



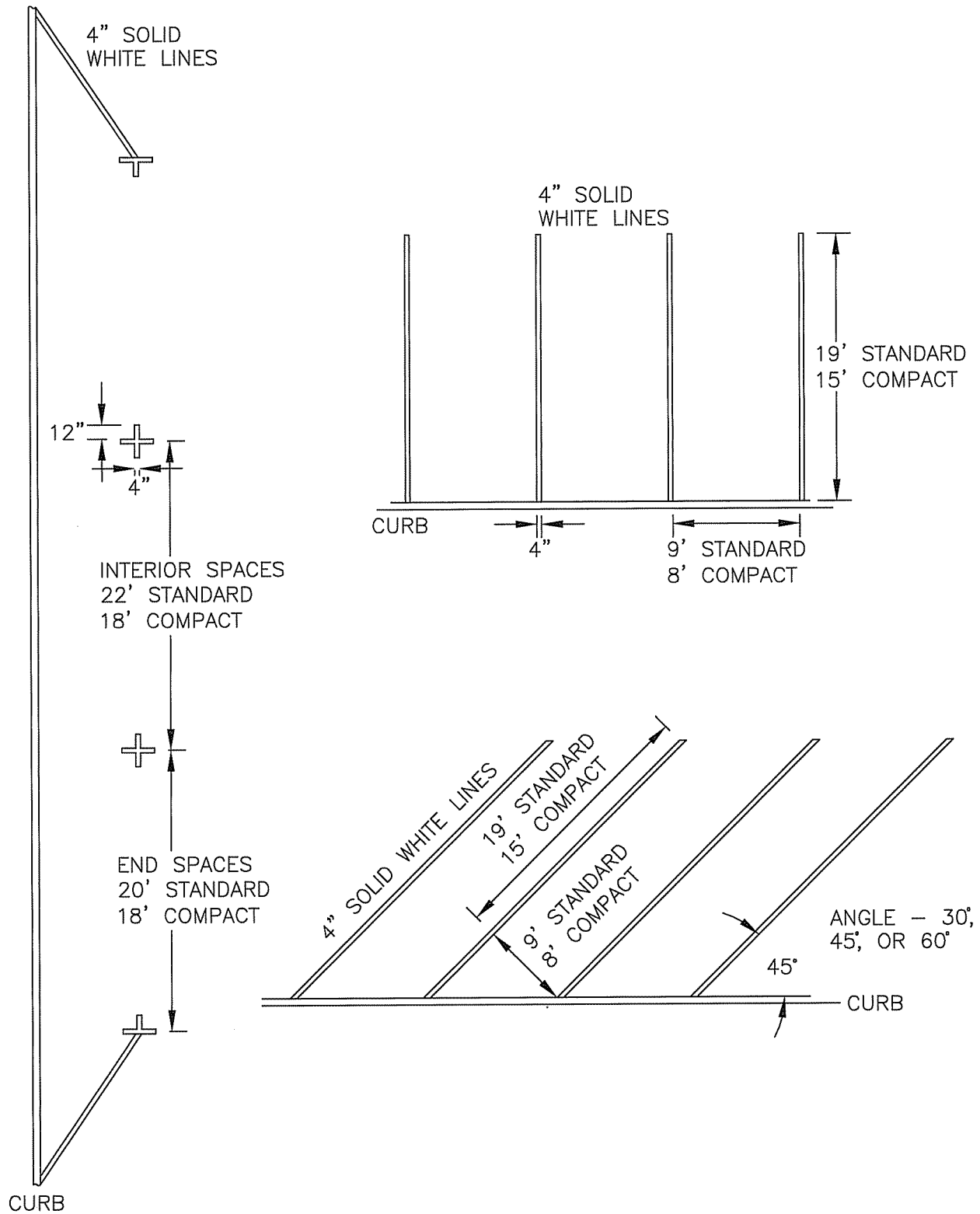
UNSIGNALIZED LOCATIONS



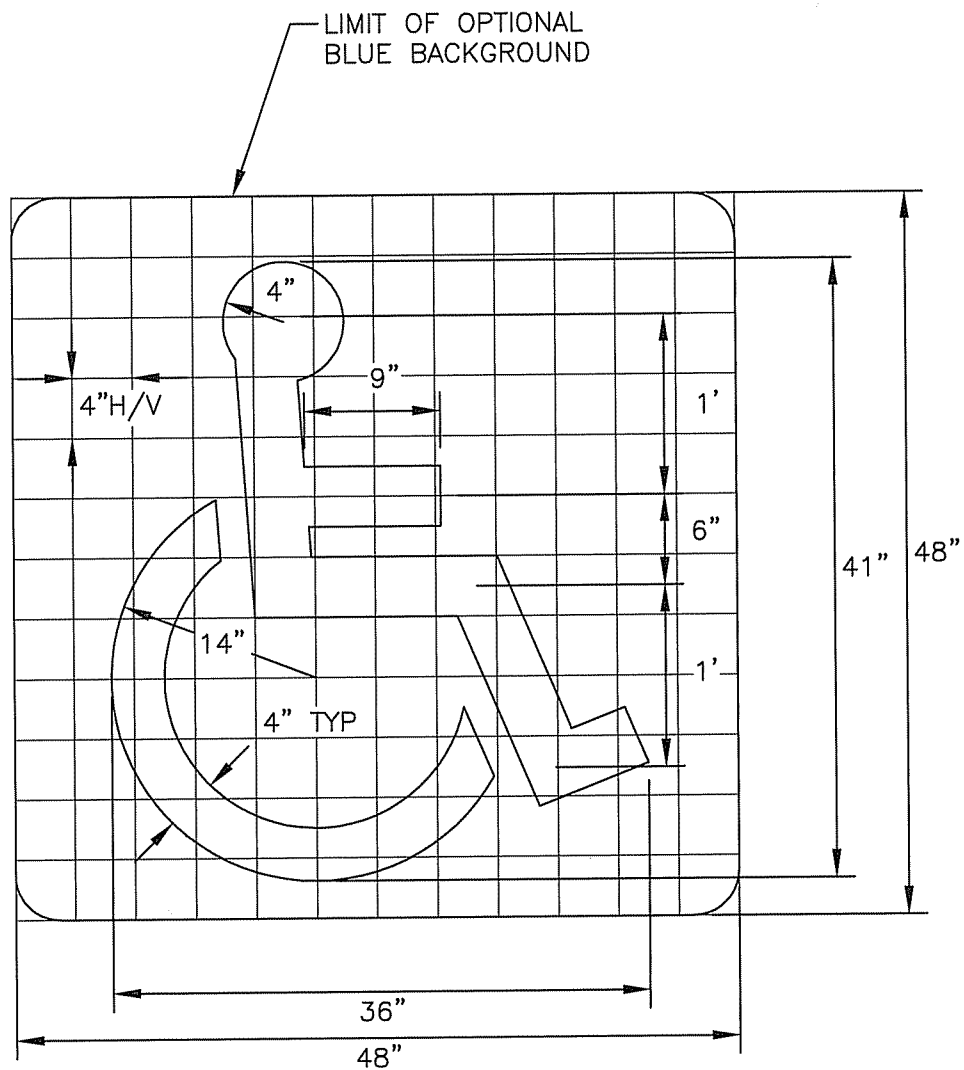
SIGNALIZED LOCATIONS

CROSSWALKS AND STOP BARS SHALL BE WHITE THERMOPLASTIC

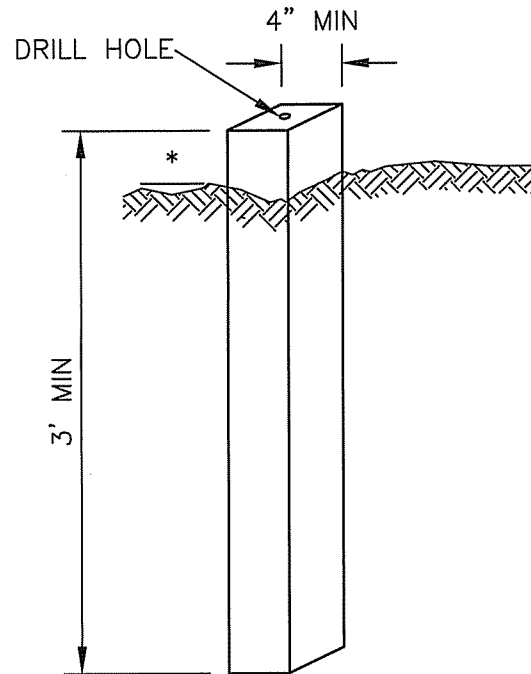
NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET	
—	—	—	PAVEMENT MARKINGS	DRAWING NO. M-3	
—	—	—		DATE: 12/08	
—	—	—		PAGE: 1	
APPROVED BY:					



NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET	
-	-	-	PARKING SPACE LAYOUT	DRAWING NO.	M-4
-	-	-		DATE:	12/08
-	-	-		PAGE:	1
APPROVED BY:					



NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION:	SITE/STREET
-	-	-	ACCESSIBLE PARKING SPACE PAVEMENT MARKING	DRAWING NO.	M-5
-	-	-		DATE:	12/08
-	-	-		PAGE:	1
APPROVED BY:					



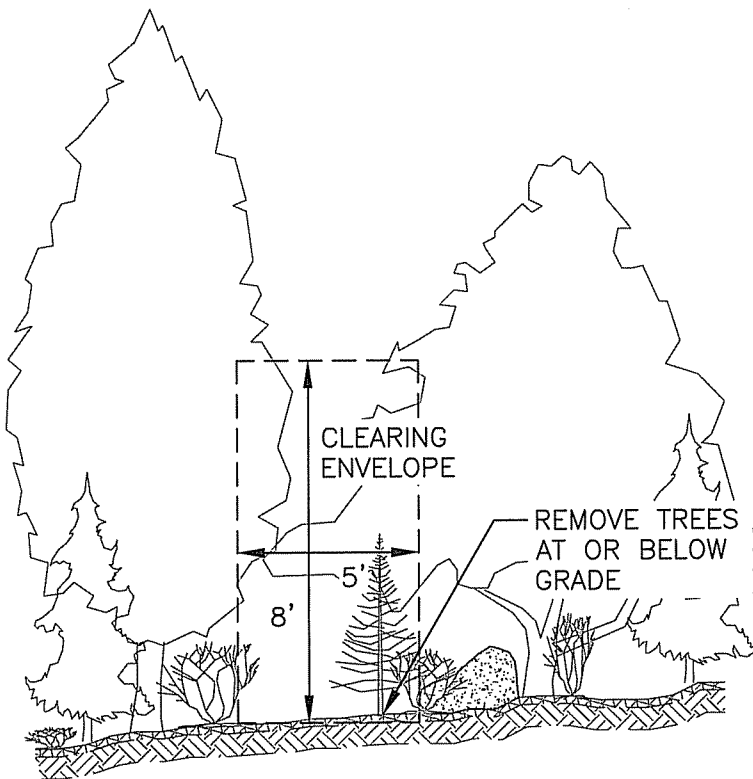
BOUND TO BE VERTICAL AND SOIL COMPACTED WHEN SET

NOTES:

1. RIGHT-OF-WAY BOUNDS SHALL BE REINFORCED CONCRETE OR GRANITE, 4"x4"x3' MINIMUM IN SIZE.
2. RIGHT-OF-WAY BOUNDS SHALL BE INSPECTED BY THE CITY OF CONCORD ENGINEERING SERVICES DIVISION.

* RIGHT-OF WAY BOUNDS SHALL BE SET $\frac{5}{8}$ " TO 1" ABOVE GROUND IN RESIDENTIAL AREAS, 4" TO 6" ABOVE GROUND IN WOODED AREAS AND SLIGHTLY BELOW GRADE WHEN SET IN PAVEMENT.

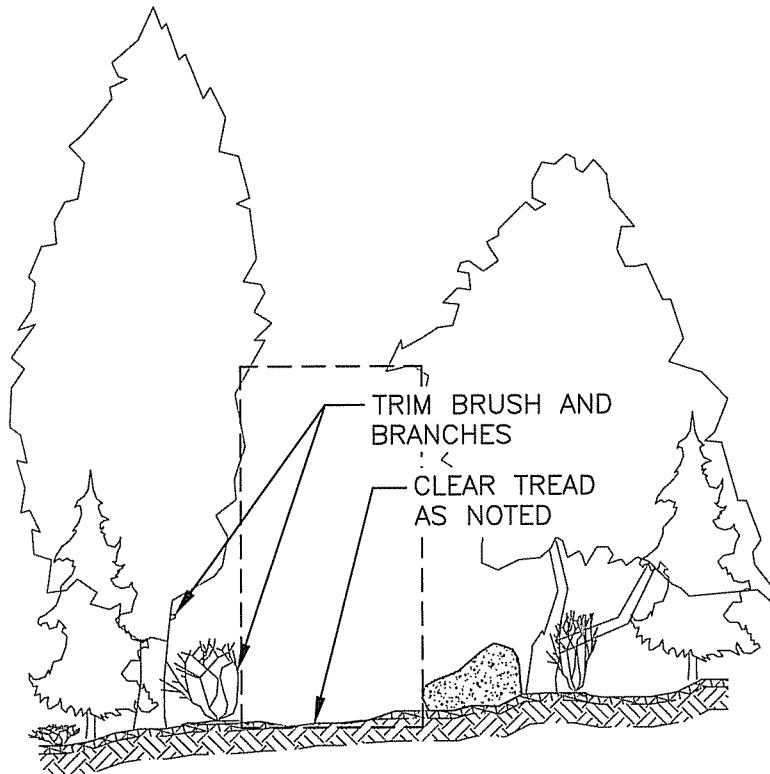
NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET	
-	-	-	RIGHT-OF-WAY BOUND DETAIL	DRAWING NO. M-6	
-	-	-		DATE: 12/08	PAGE: 1
-	-	-			
APPROVED BY:					



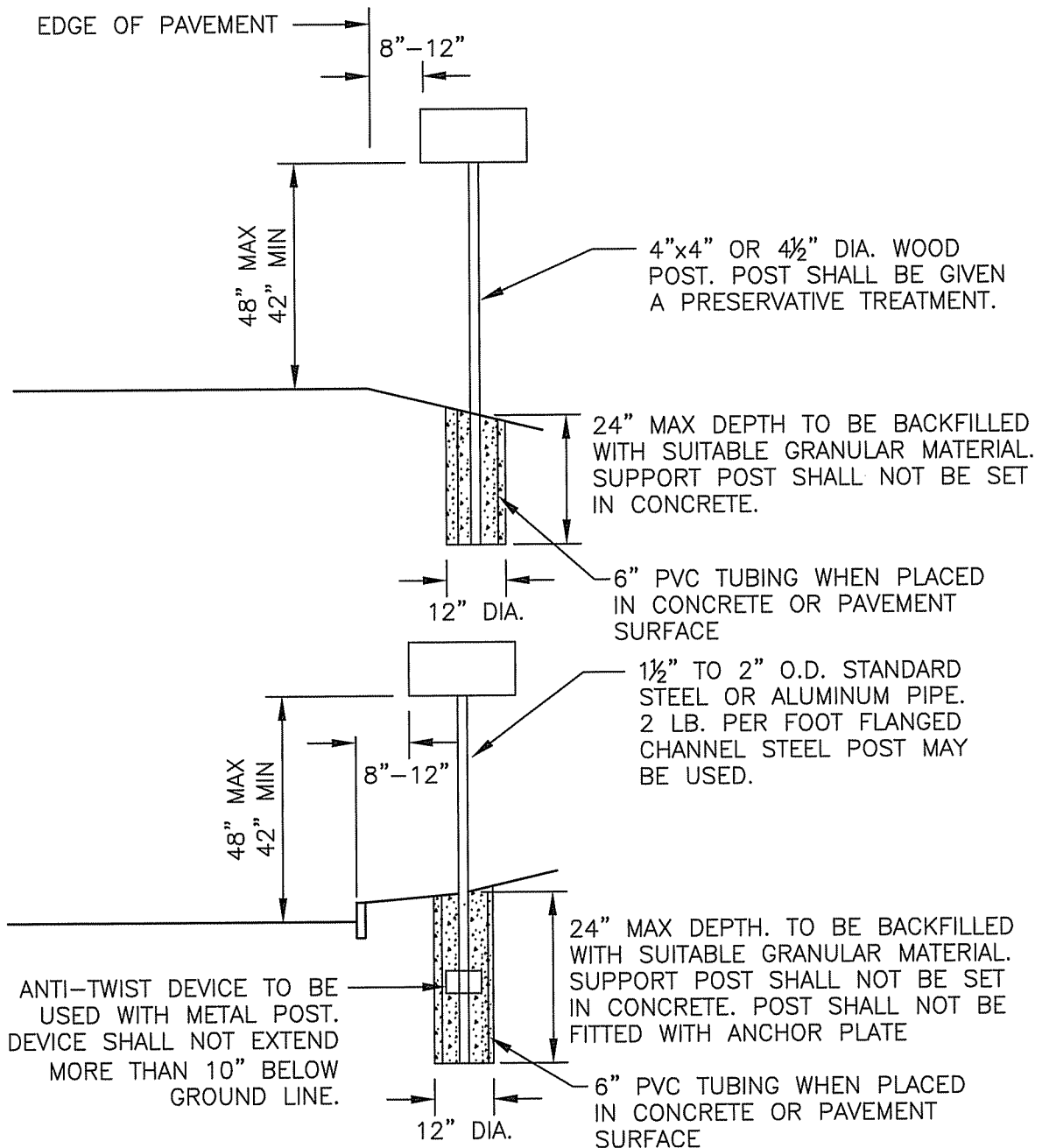
1. CLEARING FOR THE TRAIL SHOULD BE 5' WIDE AND 8' HIGH. CUT LIMBS FLUSH TO THE TREE TRUNK. CUT SMALL TREES BLOCKING THE PATH AT OR BELOW THE GROUND. REMOVE ALL CUTTING WELL OFF THE TRAIL.

2. A 3' WIDE TREAD SHALL BE ESTABLISHED. THE TREAD SHALL BE FREE OF ANY LOOSE STONES, DOWNED BRANCHES, VEGETATION AND LEAF LITTER.

3. TRAILS SHALL BE MARKED WITH 2½" BY 6" PAINTED BLAZES. BLAZES SHOULD BE PAINTED IN ORANGE, RED OR YELLOW PAINT. DO NOT USE WHITE, GREEN, OR GRAY PAINT. BLAZES SHOULD BE PLACED AS HIGH AS POSSIBLE. EACH BLAZE SHOULD BE VISIBLE FROM THE NEXT.



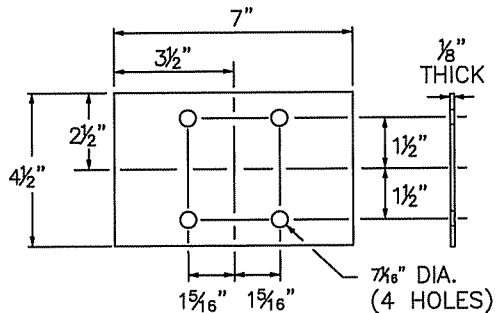
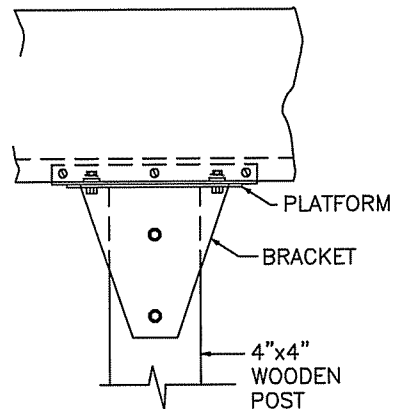
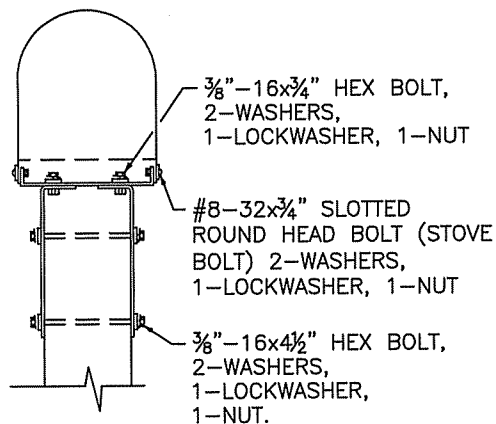
NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION:	SITE
-	-	-	<h1>TRAIL CONSTRUCTION</h1>	DRAWING NO.	M-7
-	-	-		DATE:	12/08
-	-	-		PAGE:	1
APPROVED BY:					



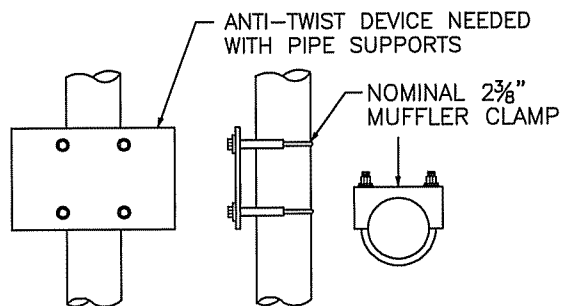
NOTES

1. ONLY LIGHTWEIGHT MAILBOXES MADE OF LIGHT SHEET METAL OR PLASTIC SHALL BE USED. MAILBOXES SHALL MEET REQUIREMENTS AND APPROVAL OF THE U.S. POSTAL SERVICE.
2. AN ALTERNATE MAILBOX SUPPORT STRUCTURE DESIGN AND CONSTRUCTION MAY BE USED AS LONG AS PROVEN CRASHWORTHY AND MEETS GUIDELINES AS SET OUT IN AASHTO'S "GUIDE FOR ERECTING MAILBOXES ON HIGHWAYS". SUPPORT STRUCTURE SHALL ALSO MEET REQUIREMENTS OF THE U.S. POSTAL SERVICE. GRANITE POSTS SHOULD NOT BE USED. GRANITE OR OTHER DECORATIVE POSTS DAMAGED BY CITY STAFF DURING WINTER MAINTENANCE OPERATIONS WILL BE REPLACED WITH A 4"x4" WOOD POST.

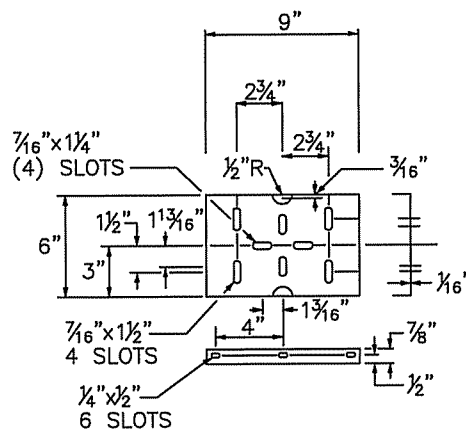
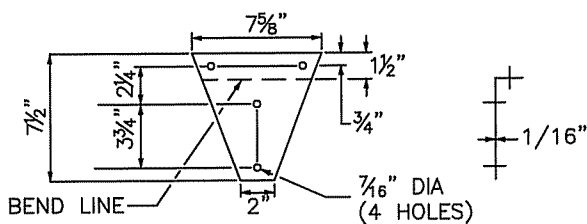
NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET	
—	—	—	MAILBOX SUPPORT	DRAWING NO. M—8	
—	—	—		DATE: 12/08	
—	—	—		PAGE: 1	
APPROVED BY:					



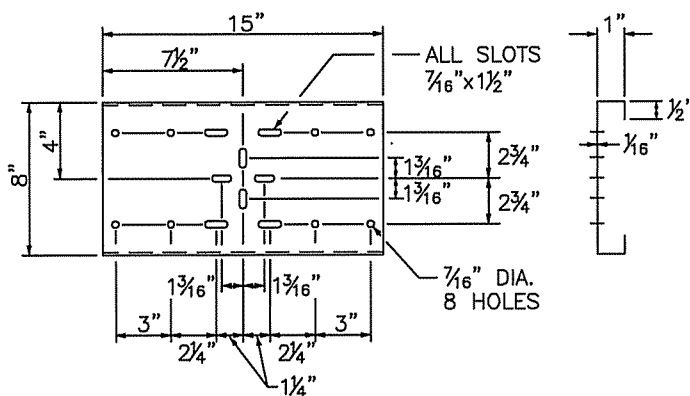
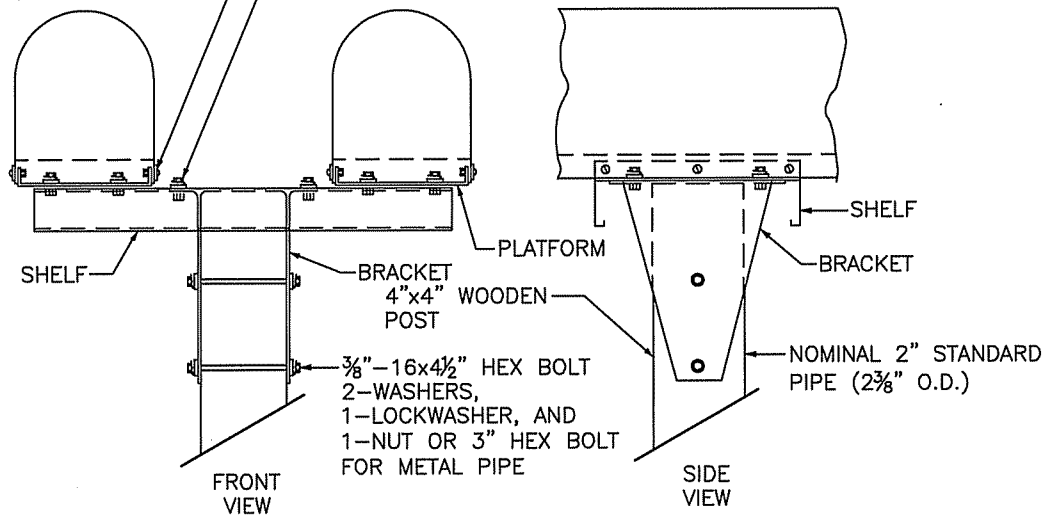
ANTI-TWIST DEVICE
DETAIL FOR METAL
PIPE



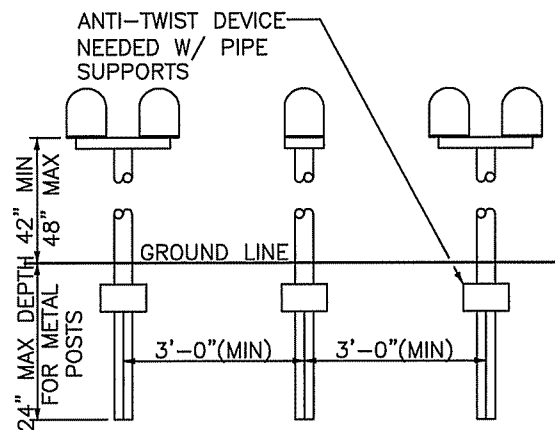
ANTI-TWIST DEVICE ASSEMBLY FOR METAL PIPES
(USED FOR SINGLE AND MULTIPLE INSTALLATIONS)



NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET
-	-	-	SINGLE MAILBOX SUPPORT	DRAWING NO. M-9
-	-	-		DATE: 12/08 PAGE: 1
-	-	-		
APPROVED BY:				



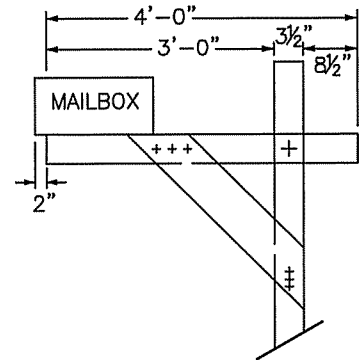
SHELF FOR TWO BOXES

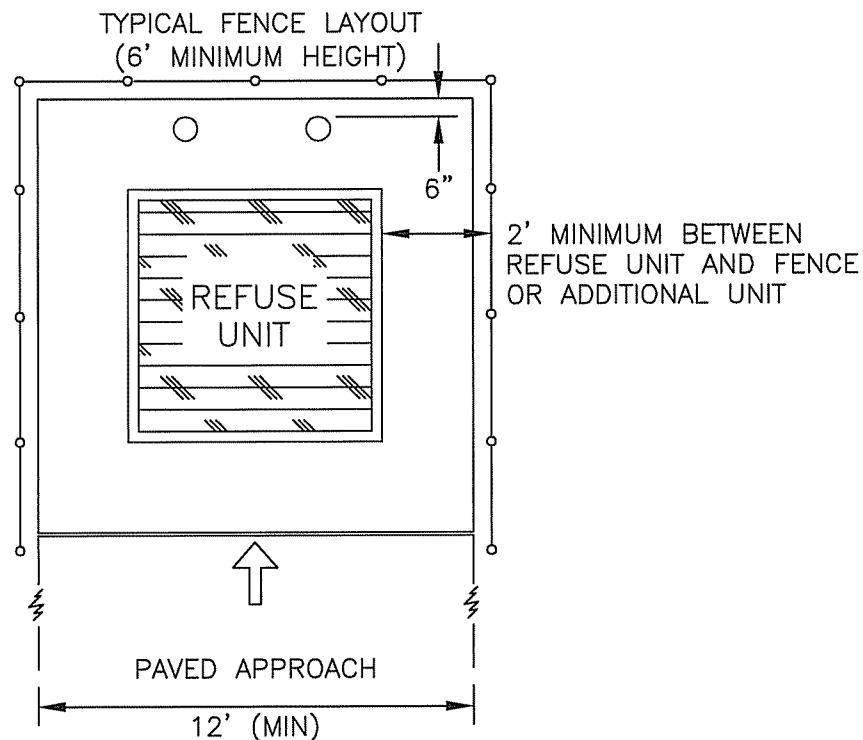
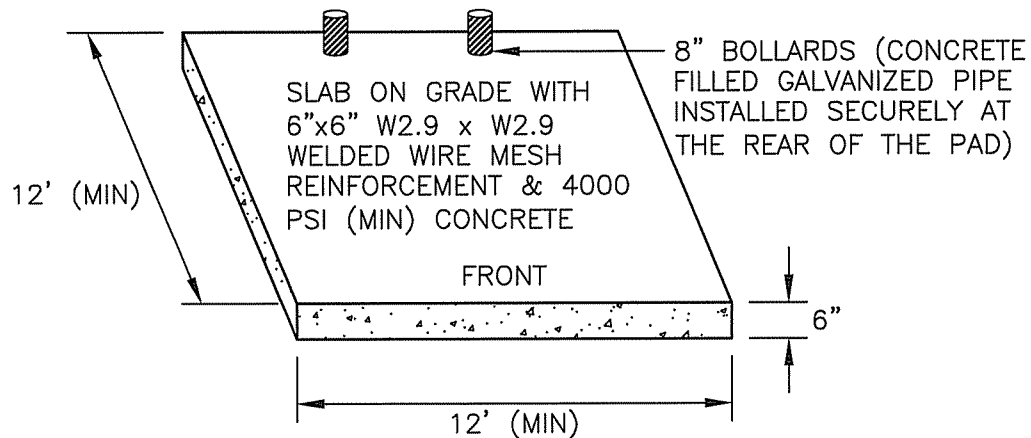


SPACING FOR MULTIPLE POST INSTALLATION

(APPLIES TO BOTH SINGLE AND
MULTIPLE MAILBOX SUPPORTS)

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION: SITE/STREET	
—	—	—	MULTIPLE MAILBOX SUPPORT	DRAWING NO. M-10	
—	—	—		DATE: 12/08	
—	—	—		PAGE: 1	
APPROVED BY:					

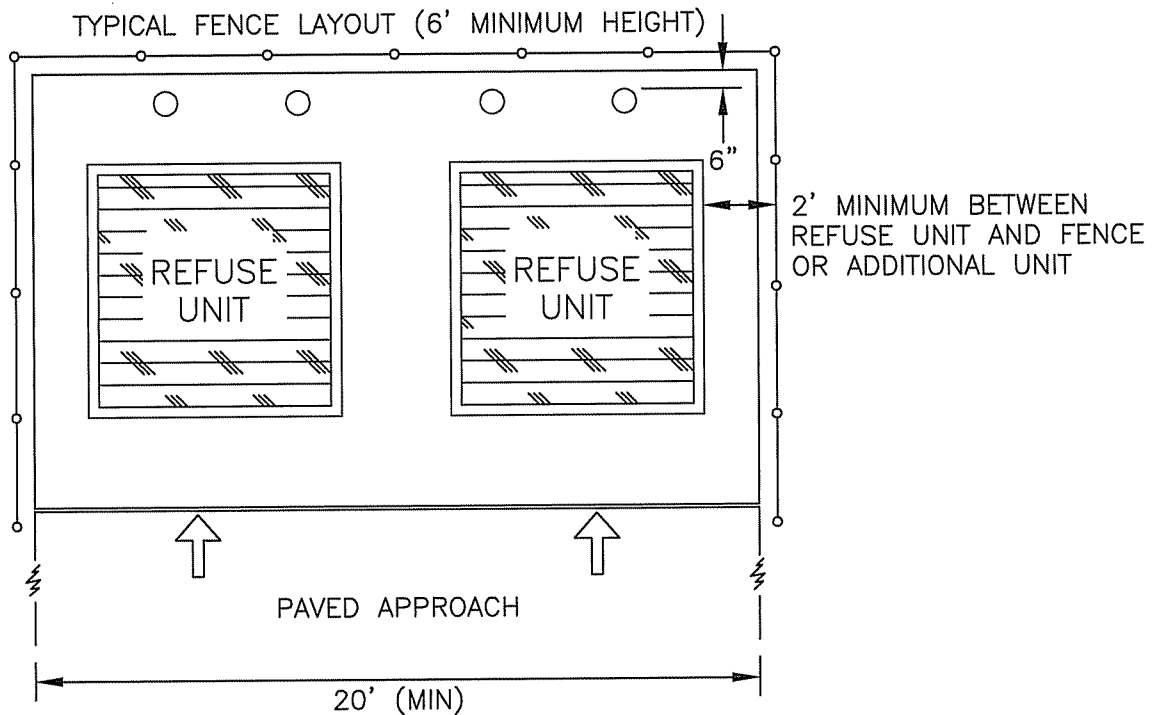
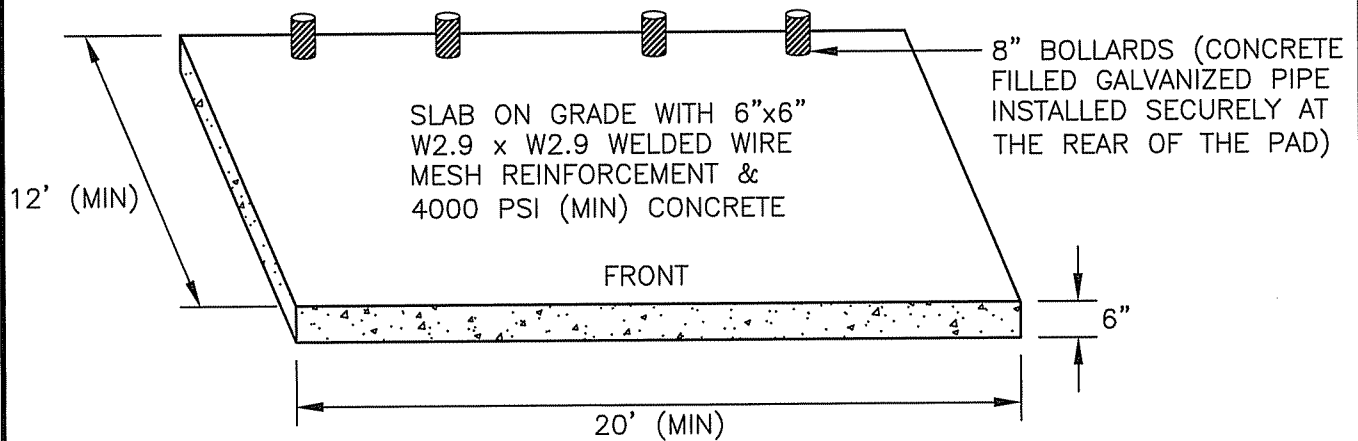
RDWY-Mailbox.dwg



NOTES:

1. DUMPSTER PADS AND ASSOCIATED SCREENING SHALL BE PLACED WHERE THE REFUSE BINS CAN BE UNLOADED WITH A SINGLE TURNING MOVEMENT WITH A 35' FRONT LOADING TRUCK. THE WIDTH OF THE GATE SHOULD BE TAKEN INTO ACCOUNT WHEN REVIEWING TURNING MOVEMENTS.
2. TRASH CONTAINERS SHALL BE LOCATED A MINIMUM DISTANCE OF 25' FROM ANY DRAINAGE STRUCTURE, INLET OR STORMWATER FACILITY.

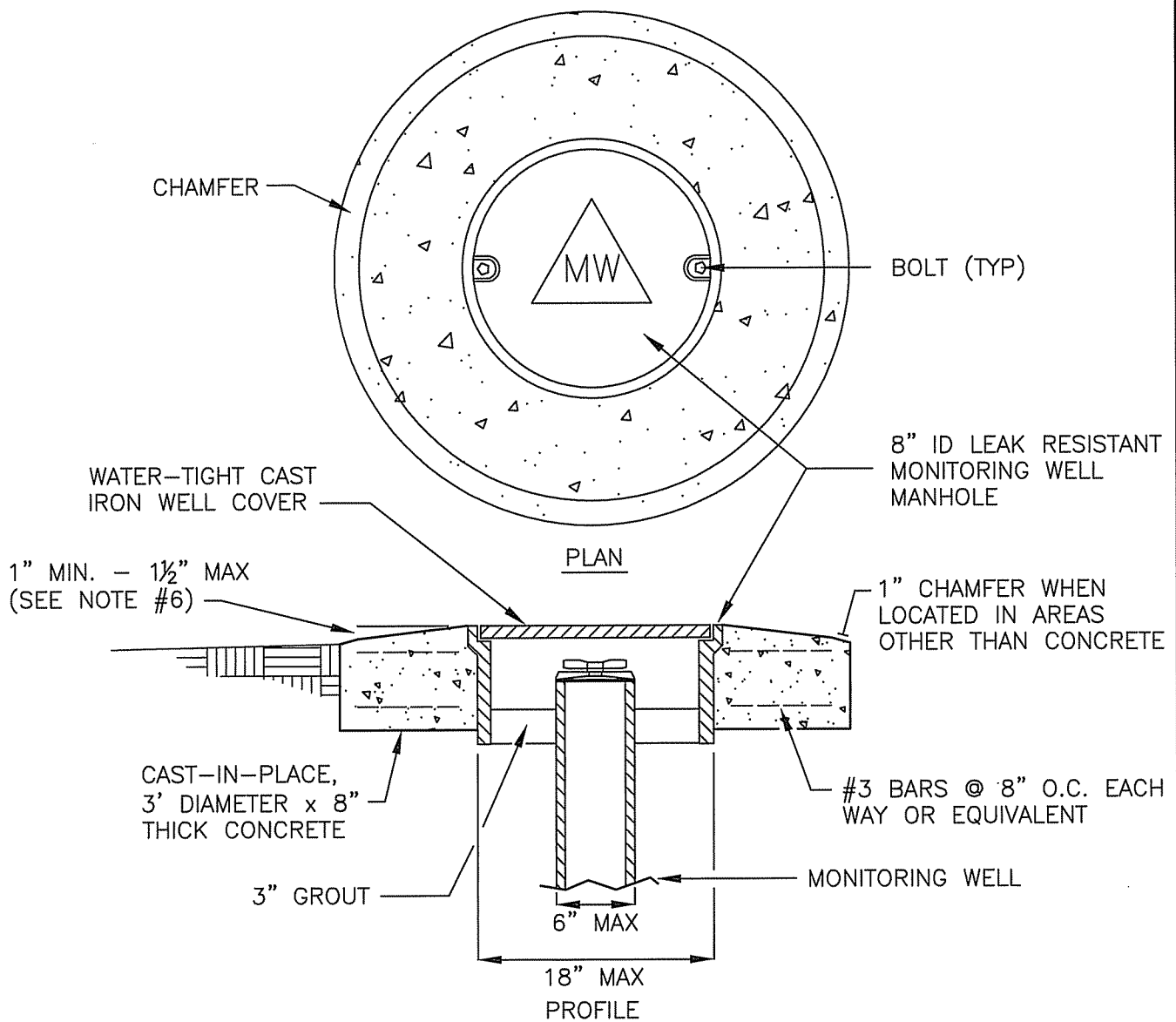
NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION:	SITE
-	-	-	SINGLE DUMPSTER PAD	DRAWING NO.	M-12
-	-	-		DATE:	12/08
-	-	-		PAGE:	1
APPROVED BY:					



NOTES:

1. DUMPSTER PADS AND ASSOCIATED SCREENING SHALL BE PLACED WHERE THE REFUSE BINS CAN BE UNLOADED WITH A SINGLE TURNING MOVEMENT WITH A 35' FRONT LOADING TRUCK. THE WIDTH OF THE GATE SHOULD BE TAKEN INTO ACCOUNT WHEN REVIEWING TURNING MOVEMENTS.
2. TRASH CONTAINERS SHALL BE LOCATED A MINIMUM DISTANCE OF 25' FROM ANY DRAINAGE STRUCTURE, INLET OR STORMWATER FACILITY.

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION:	SITE
-	-	-	MULTIPLE DUMPSTER PAD	DRAWING NO.	M-13
-	-	-		DATE:	12/08
-	-	-		PAGE:	1
APPROVED BY:					



NOTES:

1. NO LESS THAN 12" OF HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN THE MONITORING WELL AND ANY EXISTING UNDERGROUND UTILITY.
2. THE WELL BOX SHALL BE STRUCTURALLY SOUND AND STRONG ENOUGH TO SUPPORT VEHICULAR TRAFFIC. IT SHALL BE TRAFFIC RATED AS TESTED BY AN OFFICIAL TESTING LABORATORY TO MEET AASHTO STANDARD FOR "H-20" TRUCK LOADINGS.
3. THE TOP OF THE WELL SHALL BE PERMANENTLY MARKED WITH LARGE LETTERS "MW"
4. THE WELL COVER SHALL BE BOLTED DOWN OR EQUIVALENT TO PROVIDE PROTECTION AGAINST UNAUTHORIZED ACCESS.
5. THE WELL COVER SHALL BE WATER-TIGHT TO PROTECT AGAINST ENTRY OF SURFACE WATER.
6. THE TOP OF THE WELL SHALL BE SET 1" TO 1½" ABOVE SURROUNDING GRADE TO PROVIDE FOR DRAINAGE AWAY FROM THE COVER, EXCEPT FOR WELLS INSTALLED IN SIDEWALK OR PAVED AREAS WHERE TOP OF THE CONCRETE PAD SHALL BE INSTALLED FLUSH AND MATCH EXISTING CONDITIONS.
7. A CONCRETE PAD WITH A MINIMUM THICKNESS OF 6" SHALL BE CONSTRUCTED AROUND THE WELL BOX. THE PAD SHALL EXTEND Laterally A MINIMUM OF 12" FROM OUTSIDE OF THE WELL BOX. THE PAD SHALL BE CONSTRUCTED TO BE FREE OF CRACKS OR OTHER DEFECTS LIKELY TO AFFECT WATER TIGHTNESS.
8. A LOCKING WATERTIGHT WELL CAP SHALL BE INSTALLED AT THE TOP OF THE WELL CASING SO THAT SURFACE WATER THAT MAY ENTER THE VAULT WILL NOT ENTER THE WELL.

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION:	SITE
—	—	—	MONITORING WELL CONSTRUCTION DETAIL	DRAWING NO.	M-14
—	—	—		DATE:	12/08
—	—	—		PAGE:	1
APPROVED BY:					